DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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JOEL NOURSE, Proprietor.
Office....Quincy Hall.

SIMON BROWN, Editor.

FRED'K HOLBROOK, } Associate
HENRY F. FRENCH, } Editors.

CALENDAR FOR JANUARY.

"Great things doeth He which we cannot comprehend; for He saith to the snow, be thou on the earth."

"By His commandment He maketh the snow to fall apace; as birds flying He scattereth the snow; and the falling down thereof is as the lighting of grasshoppers; the eye marveleth at the beauty of the whiteness thereof; and the heart is astonished at the raining of it."

JANUARY,—the month of congratulations and good wishes, as well as of new hopes, new promises and determinations. Every first of JANUARY that we arrive at, is an imaginary mile-stone on the turnpike track of human life; at once a resting-place for thought and meditation, and a starting-point for fresh exertion in the performance of our journey. The man who does not at least *propose to himself* to be better *this* year than he was the last, must be either very good or very bad indeed! And only to *propose* to be better, is something; if nothing else, it is an acknowedgment of our *need* to be so,—which is the first step toward amendment. But in fact, to *propose* to oneself to do well, is in some sort to *do* well, positively; for there is no such thing as a stationary point in human endeavors; he who is not worse to-day than he was yesterday, is better; and he who is not better, is worse. Let us, then, from this stand-point, look back and note the errors of the past, so as to shun them in the future, and make its excellencies the starting-place of more signal virtues throughout this new period of revolving Time.

Some persons sigh for "city life" in the winter—"the country is so barren and dull,—there are no theatres or balls to attend, and no notabilities to lecture." Ah, then they have not assisted to make the country what it should be in winter. Are there more intelligent or more brilliant assembles under any gas lights in the city than gathered at the Town Hall last night? Indeed, the city itself was there. Did hearts ever beat with keener enjoyment, or swain ever "trip through the mazy dance," with more appropriate delight than in the presence of that refined and intellectual assemblage? And as to theatres, stars of the first magnitude may well envy the beauty and brilliancy of the women, or the wit and heroism of the men, who occasionally "bring down the house" in thunders of applause in the Old Academy Halls. Bare walls, smutty roofs and dirty streets, bound the vision in the city, while squalid wretchedness, crime and destitution are ghastly objects in the fore-ground. Cities we must have, but they are necessary evils: let us not forget the advantages of our own positions, in longing for the unsatisfying attractions of crowded and artificial life.

The country, it is true, *has* changed—the fields are "brown and sere," the singing birds are gone, the earth is hard and unyielding, and the trees are leafless and bare. But all these changes reveal new beauties,—the thick leaves had long concealed the bloom-buds of the fruit trees which now stand out upon the otherwise bare branches, and, "dressed in their wind-and-water-proof coats, brave the utmost severity of the season."

The leaves, having performed their office for the season, now fall to the ground, there to supply nourishment for future crops. But there is one left, which neither frost, nor winds, nor beating rains have parted from its stem:—

> "The one red leaf, the last of its clan,
> That dances as often as dance it can;
> Hanging so light and hanging so high,
> On the topmost twig that looks up at the sky,"

was influenced by, and did influence, the lowest root which pierces the humid soil. The earth, hard and rugged as it now is, is treasuring the keen frosts, in order to throw up its compact surface into light and porous forms when vernal suns invite the sower again to scatter his seeds. *Now* the processes of nature for the renewal of her

gifts may be more aptly observed than at any other period.

But the country will ever be barren and dull to him, or her, who has no habits of observation; who will not mark the soft-falling snow, or see it on the north-wind curling over the hills and walls, or about the trunks of trees, assuming fantastic forms, and filling the waste with imaginary grottoes, churches and castles. To such, books have small attraction, and the country little but *ennui* or disgust. The poet tells us of a man to whom

> "The primrose on the river's brim
> A yellow primrose was to him,
> And it was nothing more."

Few, we trust, are so indifferent to the teachings of nature, or forget this bountiful source of enjoyment,

> "Where living things, and things inanimate,
> Do speak at Heaven's command, to eye and ear,
> And speak to social reason's inner sense,
> With inarticulate language."

We cannot refrain from urging again upon all, the importance of a proper appropriation of the leisure winter hours. Some—we know them well—who are young, healthy, with good natural abilities, and full of ambition in their daily routine of physical labor, are yet sadly deficient in those mental acquirements, without which, no one in this country may reasonably aspire to more than mere drudgery. Homely as the adage is, we urge it now—"it is never too late to learn." There are now persons in the Congress of the United States, on the Bench, and others who have secured wealth and distinction, who could not read or write at the age of twenty-one! Alfred the Great was twelve years of age before he could read. If his history is not familiar to you, young man and woman, there remains to you a treat more instructive and gratifying than can be found in most physical sources of enjoyment. He always carried a book in his bosom, and amidst the great business and hurries of government, snatched moments of leisure to read. He became the great legislator and pre-eminent patriot-king of England. Most of our towns possess good libraries, and the sources of reading and learning are accessible to all. Seek, in the mean time, to understand and apply scientific knowledge to the business of your profession, whatever it may be, remembering that its true end is to enrich human life with useful arts and inventions.

WINTER SCHOOLS.—These should receive your careful consideration—make them the best of their kind. Assist and encourage the teacher; his task is one of trial, and often of great vexation, from the injudicious interference of parents in the regulation and discipline of the school. To secure success, there must be order in every business, but it is indispensable in schools.

We have often set before the reader most of the specific duties of the farmer in the winter months, and need not now to repeat them. After securing the comforts and means of improvement for the family, his first important duties are *the proper shelter and feeding of his stock*. It is of little consequence to secure bountiful crops if they are distributed in a careless and slovenly manner in the winter. Those who have a supply of roots will find the following to be a profitable mode of feeding. Cut hay, straw, corn stalks or husks, and throw it into the feed trough; then add such quantity of clean roots as you desire to feed to a given number of cattle and cut them with the hay. This process, though a little difficult, gives the dry fodder the taste of the roots, so that the whole will be eaten with a high relish. But cleanliness, good bedding, gentle treatment, and kind care every way, will save hay and grain and take the stock through in good condition.

But we have said enough in this our first salutation of the year. That we may ramble along in pleasant paths together, plucking the fruits and flowers that present themselves on the way, and treasuring up that wisdom which is better than rubies, is the sincere desire of him who now wishes you A HAPPY NEW YEAR.

For the New England Farmer.

NEW PLANTS.

Of the new plants recently introduced from Eastern Asia, there are two that promise to be of considerable value to the agricultural world. These are the *Holcus saccharatus*, or North China sugar-cane, and the *Dioscorea japonica*, (Japanese yam.)

The fruit is a sort of broom corn, producing a kind of sugar-cane, whose stalks attain seven and eight feet in height. The experiments of Mons. LOUIS VILMORIN and other French chemists, show that the stalks produced on one acre will yield 26,000 lbs. of very sweet juice, containing from 10 to 13 per cent. of pure sugar. The juice from canes raised the past season, near Paris, has produced 52 to 78 per 1,000 of pure alcohol. The residue of the canes can be fed to cattle and sheep. The holcus, in its green state, is a rapid grower, and valuable to be raised as a crop for soiling, to be cultivated in the same manner as Indian corn.

The Japanese yam is beginning to be cultivated in France as a substitute for the diseased potato. It is largely grown in China, is very hardy, and is easily propagated by cuttings of its long vines, and by its roots, which are, like those of the potato, of annual growth. The roots are large and long, the flesh very mealy and devoid of any peculiar taste or flavor. The Japanese yam is pronounced, by eminent French agriculturists, a most valuable acquisition. W.

☞ There is no greater obstacle in the way of success in life, than trusting for something to turn up, instead of going to work and turning up something.

For the New England Farmer.

THE CONCORD GRAPE.

Mr. Brown:—There have been a number of notices in the *Farmer* of a new variety of grape, cultivated by Mr. Bull, of Concord, Mass. It is said to be a native of that town, and is highly recommended on account of its fruitfulness, good flavor, and its adaptation to a northern climate. If it answers, in many respects, what it is recommended to be, it ought to be very generally introduced, and cultivated in every latitude where other varieties of the grape will not grow on account of the climate. It is, however, put beyond the reach of common persons, at present, unless they will pay an exorbitant price for a cutting of the grape, or for a seedling of three years old.

Hovey & Co., of Boston, with an understanding, probably, with Mr. Bull, have the control of the grape, and charge five dollars for a single cutting or seedling. From this charge, it appears that the Concord grape vine has become a matter of great speculation between two or more individuals. This kind of speculation ought to be frowned upon by the press, especially the agricultural press. It is true, no individuals are obliged to buy of these men; but, if the grape is so valuable as they and the press have recommended it, common people have an anxiety to obtain it by paying a fair compensation for it. I think Mr. Bull's grape is a good variety; but his price is not for a moment to be tolerated; and the press which tolerates such extortion and speculation, does no good service to community, either in an agricultural or moral point of view. We do not say this speculation is tolerated by the press, especially the agricultural press. Of the grapes alluded to, there are three or four thousand seedlings for sale. These, at five dollars a piece, amount to many thousand dollars, and their actual cost to those concerned in the speculation is not five hundred dollars. The seeds are not on sale, and cannot be had at the horticultural seed store at Boston, and every man of common sense knows the reason.

While on this subject, I wish to notice another speculation of the same kind that is carried on by an individual in New York city. A Mr. Lawton advertises that he has an improved variety of the Blackberry—has three acres under cultivation—bear bountifully from four to six weeks—shoots spring up from the main stock, bear well and die in the fall. Mr. Lawton sells his packages of one dozen each for $10. This is one of the Blackberry speculations, and will probably entitle Mr. Lawton to an honorary degree in the Horticultural Society.

The above remarks are somewhat severe, but not uncalled for. If they will elicit further information on this and other subjects immediately connected, the desire of the writer will be accomplished. John Wilcox.

Newport, N. H., Nov., 1854.

Remarks.—Mr. Bull is a townsman and neighbor of ours, and we believe an honest man. Believing him able to set himself right in this matter, we handed him the letter of our correspondent, and he has communicated to us the following in reply:—

Concord, Nov. 30, 1854.

Mr. Brown:—Your correspondent, John Wilcox, thinks the "Concord grape" has become a matter of speculation. When you publish his communication, I would feel obliged to you if you would state, in your own way, the facts of the case; that is to say, that I have been engaged for twelve years in raising seedling grapes, during which time I have spared no pains in collecting every variety of native grape that had a local fame—many of which cost me large sums, and all of which, I may add, came to the fire at last as worthless, in comparison with the Concord, as did also any quantity of seedlings, which did not prove to be good, and of which I have burned cords. My sole purpose during this time has been to obtain a good table and wine grape for New England, which should be early, hardy and prolific. Having succeeded in this, my next purpose has been to propagate it as rapidly as possible, with a view to dissemination, and also to bring the price within the means of all desiring to purchase. Thousands of young vines were destroyed by the fervent sun of July 4 and 5 last, leaving me less than enough to supply my orders, and thus frustrating my purpose for this autumn; but I hope to have a good supply ready for the spring planting, having, at great expense, put up a large forcing-house for propagating them; this will enable me to reduce the price, which I very much desire.

There is no monopoly of sale. To prevent the sale of spurious vines, it was necessary to issue the grape to the public through a respectable and responsible house. Messrs. Hovey & Co. were chosen for this purpose, and their well-established character was a sufficient guarantee to all purchasers; whoever purchased the Concord of them, Messrs. Breck & Son, or of myself, may be sure they have got the true vine.

In conclusion, I assure the public that I shall propagate the Concord as fast as possible, and shall reduce the price as soon as the supply can be made to bear a better proportion to the demand. Yours truly, E. W. Bull.

We know little of Mr. Lawton's operations with the blackberry, but presume he will be able to justify all his movements. At any rate, our columns are open for any fair statement from him.

FALL PLOWING.

Friend Hildreth.—Dear Sir:—At a meeting of the Hillsboro' Agricultural Society, held at Nashua, Sept. 9th, the subject of fall plowing was pretty thoroughly discussed, and in an account of that meeting, published in the *Granite Farmer* of Sept. 30, some things that I did not say are attributed to me, and many things that I did say were left out.

I am in favor of fall plowing for certain kind of land, especially all gardens, nurseries, and almost any land that is weedy, and would need plowing three times before planting, and I would plow deep, whether in fall or spring, and not shallow, as I was reported to have said. I stated at the above named meeting, that tough sods, that were laid up loose, and exposed to the weather all winter, would decay sooner than those tha

were turned in a flat furrow, and not exposed. Among the reasons given in favor of fall plowing were the following, viz., that it was the very best way to destroy the cut-worm, especially if done late,—that weeds, potato vines, leaves &c., would be rotten, and out of the way in spring, and that unripe seeds would be destroyed, and the seeds of some weeds would germinate so late as to do no harm.

The principal objection to fall plowing is that the land is more liable to wash and blow away than if not plowed.

The cold of last Sunday and Monday morning, was more severe here than I ever knew before at this season, being at 9 degrees above 0, from 4 o'clock to ½ past 7, on Monday, and apples, cabbages, turnips, squashes, celery,&c., were injured in many instances.

Yours, &c., B. F. CUTTER.

Pelham, Nov. 4, 1854.

Granite Farmer.

TO ASCERTAIN THE WEIGHT OF LIVE STOCK.

First, see that the animal stands square, then, with a string, take his circumference just behind the shoulder-blade, and measure the feet and inches—this is the *girth*. Then measure from the bone of the tail which plumbs the line with the hinder part of the buttock, and direct the string along the back to the forepart of the shoulder-blade, and this will be the *length*. Then, work the figures thus:—Suppose girth of bullock 6 feet 4 inches, length 5 feet 3 inches, which multiplied together makes 33 square superficial feet; and these, multiplied by 23—the number of pounds allowed for each superficial foot of cattle measuring less than *seven* and more than *five* feet in girth—make 759 lbs. When the animal measures less than *nine* and more than *seven* feet in girth, 31 is the number of pounds to be estimated for each superficial foot. And suppose a small animal to measure two feet in girth and two feet in length; these multiplied together make 4 feet, which, multiplied by *eleven*—the number of pounds allowed for each square foot when cattle measure less than three feet in girth—make 44 lbs.

Again, suppose a calf or sheep, &c., to measure 4 feet 6 inches in girth, and 3 feet 9 inches in length, that multiplied together, makes 16 square feet, and these multiplied by 19, the number of pounds allowed for cattle measuring less than five and more than 3 feet in girth, make 256 lbs. The dimension in girth and length of the back of cattle, sheep, calves and hogs, taken this way, are as exact as is at all necessary for common computation or valuation of stock, and will answer to the four quarters of the animal, sinking the offal. A deduction must be made for animals half fat, of one pound in twenty from those that are fat; and for a cow that has had calves, one pound must be allowed, in addition to the one for not being fat, upon every twenty.

GOOD FRUIT.—The *Wisconsin Farmer* says:—"Wisconsin can produce as good fruit as any other State in the Union." Well, let us see you do it.

THE VOICE OF AUTUMN.

BY W. C. BRYANT.

There comes from yonder height
A soft, repining sound,
Where forest leaves are bright,
And fall like flakes of light
To the ground.

It is the autumn breeze,
That, lightly floating on,
Just skims the weedy leas,
Just stirs the glowing trees,
And is gone.

He moans by sedgy brook,
And visits, with a sigh,
The last pale flowers that look,
From out their sunny nook,
At the sky.

O'er shouting children flies
That light October wind;
And, kissing cheeks and eyes,
He leaves their merry cries
Far behind;

And wanders on to make
That soft, uneasy sound,
By distant wood and lake,
Where distant fountains break
From the ground.

No bower where maidens dwell
Can win a moment's stay;
Nor fair, untrodden dell;
He sweeps the upland swell,
And away!

Mourn'st thou thy homeless state,
O, soft, repining wind!
That early seek'st, and late,
The rest it is thy fate
Not to find!

Not on the mountain's breast,
Not on the ocean's shore,
In all the East and West;—
The wind that stops to rest
Is no more.

By valleys, woods and springs,
No wonder thou shouldst grieve
For all the glorious things
Thou touchest with thy wings
And must leave.

PIPER, OR WITCH GRASS.

Farmers and gardners need a large stock of the article, which made Job so contented under his afflictions, who have grounds infested with this abominable scourge. The old *saw* that the only way to kill it was to "dry it, and then put it into your pipe and smoke it, *and be careful of the ashes*," only shows the trouble connected with its extermination. I recollect shaking out a handful and laying it up to take the air upon a stick of old timber. A few weeks afterwards I found, to my astonishment, a thrifty bunch of grass, the roots had penetrated the spongy stick, and were very far from discouraged.

All those who have had "their hands in the dirt," are familiar with the hard, wiry extremities of piper roots. They will not turn out of their course for a potato, or a chip, but are often found grown through them.

Piper grass will spread like an epidemic. Some farmers let the grass stand where it is in a hayfield until the seed is ripened, and so spread

oceans of it. Sometimes soil from the wayside is carted to the barn yard containing the mischievous article. Don't you think that the stamping of the cattle or the composting will kill it, or render it harmless? Just give it a fair chance in your fields and you will see something *green*, if such has been your management.

I have spent a good many dollars to keep the upper hands of my piper grass. I have hired land dug all over with a ten-tined fork, but then it would be left so mellow and fine that the few remaining bits would take courage and give me the most unquestionable evidence of their existence in a few days.

It won't pay to plant small seeds in this foul soil. You may get along with corn and potatoes by great care, but any weaker plants are too easily overpowered. I have found a great saving in the culture of such land, to plant as late as it would do, so that the corn might get up as soon as the witch grass, if not a little before. If you plant early in May, during the cold days that may follow, the grass will be pushing up, while the seed sown will remain inactive. It is better, therefore, to plant later, so that the weather will encourage for the corn a growth as rapid as possible. A laborious hoeing may thus be saved. And when you consider how constantly the soil, mellowed by the plow before planting, is settling down, compact and solid, it may be questioned if the advantages claimed for early planting counterbalance those in favor of depositing the seed upon the warm furrows, recently turned, after the season has become favorable for their rapid germination.

The quicker you can get your corn to shade your land, the less expense for hoeing. I, therefore, plant the hills, (and yet I never make hills) two and a half feet one way and four feet the other. Thus I am able to drive the horse through with the new cultivator, and by going close to the corn I leave very little land to be hoed over. I suppose some may not understand to what cultivator I refer. It is one that has saved me its cost many times in two summers, and added to the crops raised by the deep tillage it gives. It has three teeth, which look like iron duck's-feet, at the bottom of three legs about fifteen inches long. It seldom clogs and runs deep and through the ground, leaving it very light, and effectually disturbing the piper roots, a good portion of which it brings to the surface. I can unsolicited say, that this implement cannot be used and piper grass flourish on the same piece of land, the same summer. It is the only practical approach to the "piper" aforesaid, with which I am acquainted.

I suggest then, for piper grass lands intended for tillage—to plow deep at the last moment—plant always late—manure broadcast liberally, and in the hill moderately—and, after perhaps once plowing between the corn, comb the land with the cultivator to which I have alluded.

Piper grass around fruit trees may be kept down in this way. Take some old hay, or litter of any kind, and cover the ground under the limbs. Lay sticks upon it—boards are better—to keep it from blowing away. This is everything cheaper than the digging necessary to keep the trees in order where the ground is exposed. The litter should all be removed in the fall to prevent the mice establishing very pleasant winter quarters. B.

Concord, Mass., March 18, 1852.

For the New England Farmer.

RUMINATING ANIMALS.

Mr. Editor:—I send you some remarks upon ruminating animals, by an aged farmer of Worcester County. The character, long experience and accurate observation of the writer of these remarks, entitle whatever he may say upon the structure and habits of animals, or the culture of the soil, to respectful consideration; and such consideration will often prove an advantage to the farmer.

Will you please to insert in your paper, these remarks, and any others which may follow them at a future time and be worthy of notice, and oblige, Yours respectfully,

A Constant Reader of the Farmer.

Medfield, Nov. 24, 1854.

"Some years ago, I saw in print this assertion:—'all ruminating animals bring up and remasticate all their food, and when it is swallowed, it goes directly into the *third stomach*.' To this assertion there are several objections. There can be no such thing as bringing up and remasticating their food by these animals. Examine the paunch, or, in modern expression, the first stomach, and you will find there a mixed mass, such as no animal would have in its mouth if it could be avoided, and it cannot be separated. Besides, if the assertion were true, the animal must keep his jaws in motion all the time. This is never seen to be done. Feed a pair of oxen in the morning until they are full; put them to work and keep them steadily working, and it will be found that they have chewed the cud but a very small part of the time. Then what has become of their breakfast? It remains in the animal, undergoing the operation of digestion.

Again, it is said, food, when remasticated and swallowed, 'goes directly into the *third stomach*.' This is impossible, because there is but one passage from the throat to the stomach, and to go directly into the third stomach, it would need another passage. I presume no such passage has ever been discovered; and no man, who has examined the inside of an animal, could ever have come to such a conclusion. The assertion betrays the ignorance of its author."

THE ILLUSTRATED ANNUAL,

Register of Rural Affairs and Cultivator Almanac for 1855.

This is the title of an Annual, published at Albany, N. Y., by Luther Tucker, Esq., Editor of the *Cultivator* and *Country Gentleman*. A part of the title-page states that the work contains brief and practical suggestions for the consideration of the farmer and horticulturist, and embellished with *one hundred and twenty engravings*, including houses, farm buildings, implements, domestic animals, fruits, flowers, &c. This book is one of convenience, and will prove of practical utility to any farmer. Price 50 cents.

SHEEP AND WOOL.

The annexed table, showing the number of sheep and pounds of wool produced in each of the States and Territories of the Union, according to the Census of 1850, has been published in many of the papers. We have added, in another column at the right hand, the average yield of a sheep in each State, in pounds and hundredths:

States.	Sheep.	Lbs. Wool.	Av.
Maine	440,943	1,362,986	3,09
New Hampshire	384,656	1,108,476	2,88
Vermont	919,992	3,410,993	3,70
Massachusetts	188,651	585,136	3,10
Rhode Island	44,296	129,692	2,92
Connecticut	174,181	497,454	2,85
New York	3,454,241	10,070,301	2,91
New Jersey	160,488	375,396	2,33
Pennsylvania	1,822,357	4,481,570	2,45
Delaware	27,503	57,768	2,10
Maryland	177,902	480,226	2,69
District of Columbia	150	525	2,82
Virginia	1,311,004	2,860,765	2,18
North Carolina	595,249	970,738	1,63
South Carolina	231,754	487,223	1,76
Georgia	560,435	990,019	1,76
Florida	23,311	23,247	0,99
Alabama	371,800	657,118	1,76
Mississippi	304,929	559,619	1,83
Louisiana	110,333	109,897	0,99
Texas	90,098	131,374	1,45
Arkansas	91,256	182,595	2,00
Tennessee	811,587	1,364,378	1,68
Kentucky	1,070,303	2,283,685	2,13
Ohio	3,937,086	10,111,288	2,56
Michigan	746,435	2,043,283	2,73
Indiana	1,122,493	2,610,287	2,32
Illinois	894,043	2,150,113	2,53
Missouri	756,309	1,615,860	2,28
Iowa	149,960	373,898	2,49
Wisconsin	124,892	253,963	1,03
California	17,574	5,520	0,31
Minnesota Territory	80	85	1,06
Oregon Territory	15,382	29,686	1,27
Utah Territory	3,262	9,222	2,82
New Mexico	377,271	32,901	0,08
	21,571,306	52,417,287	2,42

It appears that the average is higher, by six-tenths of a pound, in Vermont, than in any other State. Massachusetts comes next, and then Maine. These are the only States where it exceeds three pounds. In New Mexico and California, probably, the sheep are raised for mutton and poultry, and few of them are sheared; for though we find a very regular diminution in the weight of fleeces as we proceed southward, it is not credible that fleeces actually sheared should average only about five ounces in California, and only about an ounce and a quarter in New Mexico.

The weight of fleeces in Vermont is not owing wholly to the latitude or temperature; for if it were, New Hampshire and Maine ought to yield heavier fleeces still. It is doubtless, in part, caused by the quality of the pasturage, air and water of the Green Mountain range; an advantage in which Massachusetts partakes. Another, and a principle cause is, the superiority of the breeds raised there. Almost all the sheep there are descended from breeds carefully selected from the best flocks in Spain; and it has been long since ascertained that, with decent treatment, they do not deteriorate in Vermont. Not improbably, most parts of the Alleghany range may be found nearly or quite as well adapted to the same breeds.

The fleeces in Vermont are very nearly 20 per cent. heavier than those in any other State, and 52 per cent. heavier than the average of the whole United States. The profit of wool-growing, compared with lighter fleeces of equal fineness, is about in the same proportion; for the rearing and support of a poor sheep is as costly as of a good one. But besides this, the fleeces are much finer than the average of the whole country, and bring a higher price per pound. It is plain, therefore, why the Vermont farmers go into the business so much more generally and extensively than those of any other State. It is plain, too, what farmers of other States must do, if they would reap the same profits from this business.

There are towns in New Hampshire, where sheep of the same breeds yield the same profits; and so in some other States. It is probable, however, that in this staple the Northern States will always retain some advantage over the Southern, and the mountains over the plains.—*Traveller.*

For the New England Farmer.

A MEDLEY.

MR. EDITOR:—I do not often turn aside to notice articles by correspondents for your paper, believing that it is better, in most cases, to let every writer have his "say" in his own way. But in looking over the article of "A Reader," in the *Farmer* of November 18th, I think that some "ideas" offered on the "articles," or some of them, need a little explanation. On the article of "Some Wants wanted by Farmers," he says, "A pretty good article on a capital subject. Want of means, want of knowledge, want of interest, love of business is discussed. To raise the 'means,' a mortgage is suggested. Mortgages—I have learned by experience to shudder at the mention of that word. How they sweep the board to pay the 'interest annually,' and still hang over the old homestead generation after generation—a smothering 'nightmare' on enterprise, ambition and hope." Now what I said in a former article on this point, in substance, was this. "When a young farmer has just started on a new place, instead of laying out all his capital in land, let him save part of it to lay out in farm buildings and other improvements, of course owning less land, and having more ready money to improve what he has got. But, as is now often the case in New England, when the farmer occupies the lands that his father did before him, if ready capital is wanted, and it cannot readily be obtained, put a mortgage on a few acres of land, and raise the money in that way. For it is better to pay interest money for a few years, than to go without the means to invest in farming improvements," &c. Of course, it will be understood that this raising money by "mortgage," is only to be done in extreme cases of necessity. If the farmer has a surplus of land, and can "sell" a few acres, then do so, by all means, and raise the money in that way. But then, as is more often the case with poor farms, where every farmer wants to "sell" and none wish to buy, the case becomes almost a "desperate" one. Then, I say, put a mortgage on a few acres at once, (that is if the farm is not already covered with mortgages for old debts,) and raise the means for future improvements. I think that "A Reader" on mortgages makes an uncommon great "bugbear" out of very small materials, so, in reality, no one need be scared by it.

I have both *seen* mortgages, lived by them, lived with them, and lived under them, and never

have yet had a turn of the "nightmare," and do not intend to hereafter. Of course, every farmer can understand the difference between having ready money and not having it; and I presume that "A Reader," with the rest of us, would understand the "difference" between having a few acres of our land mortgaged for money borrowed, instead of having a mortgage of a few acres in our pockets; it would make all the "difference" in the world with me. What I meant to show by the mortgage plan was, that where the farmer had bought a worn-out farm, and money was wanted and could not be obtained readily by a "sale" alone, the mortgage plan must be resorted to. The farmer must see that he cannot afford to let his land lie unimproved, and that money should be had; there should be no *if* nor *and* about it; for where there is a will to do there can be a way provided. If this be the case, then I am, for one, ready to stand and abide the issue.

"Improving soils by shade!" On this article "A Reader" says:—"On this theory, cellar bottoms ought to become rich, and apple tree roots in grass land ought to grow all the better for enjoying a shaded soil. Land covered for four years with brush two feet deep, especially such as would decay in half that time, or even land on which flax is spread merely to *rot*, might be improved thereby from the deposit of vegetable matter, and the disengagement of gases consequent upon even partial decomposition, without giving any credit at all to 'shade.' Though I have little faith that shade will ever be lugged up and sold at 'fifty dollars a ton' as a fertilizer," &c. Very well: now I ask "A Reader," with the readers of the *Farmer*, to turn to the weekly *Farmer* of Sept. 30, or the monthly *Farmer* for November 2, and give my article a fair reading on "Shade," read your own "comments," and then say if you think it a just and fair "criticism." What I meant to show was, that "waste lands" could be improved in the shortest manner by growing trees, and that there was a principle involved by growing trees, which rendered the soil more or less productive. Has "A Reader" proved, or attempted to prove, any thing to the contrary? He has simply glided over it by saying, if shade improves soils, then "cellar bottoms" ought to grow rich, and that land that was covered with brush two feet deep for three or four years, might be improved by the partial decomposition of the brush and the retention of gases, giving the "shade theory" the go by, which is all very well.

What I stated in my article on "shade," &c., was, in substance, that a pile of rails or boards, laying upon the ground for a year or two, the soil under the pile would be greatly improved by it. I do not stop to say whether this is done by decomposition, gases, or anti-gases; I only say that such is the fact, as every observing farmer knows. Has "A Reader" offered, or proved any thing to the contrary? My own idea is, that the greatest amount of improvement to the soil under a pile of brush, boards, or rails, comes from protection to the soil from hot suns and washing rains. I may, however, be all wrong in this, or I again may be right.

A word or two more and I am done. As "A Reader" has (he does not see fit to give us his name,) taken the responsible position of "commentator," we suggest that he would give enough of any article commented on, to enable the general reader to understand the drift of the argument on both sides of the question. In the second place, I would give my own ideas in a plain, straightforward way, but never mind what others may say. I much prefer to have your own "ideas," independent of other people's, on this point, after having made them stand by and abide the issue. But to take a writer's article, pick one sentence here and ridicule another idea there, is not just the fair thing, for in that case any writer's ideas might be made to appear "ridiculous," although there may be no such intention on the part of the critic. Yours truly, L. DURAND.

Derby, Ct., Nov., 1854.

CANKER WORMS.

A good opportunity is now presented, in our immediate vicinity, of removing any doubts which may still be entertained as to the habits of the canker worm, that most destructive of all the insects which infest our orchards and shade trees. The manner in which they possess themselves of what they devour with such voracious certainty, and the efficacy of the process of preventing their ravages by tarring the trunks of the trees, may be clearly seen in some of the orchards in Brookline, where the work is now going on. Our attention was called, a few mornings ago, to a scene of this kind, which almost beggars description. The ground around the trunks of the trees, within a circle of two or three feet in diameter, was literally covered with the insects which had fallen in a vain struggle to overcome the tarred barrier by which the trees were surrounded. Millions of the spoilers were writhing in the agonies of despair and death. The mass of the invading army were wingless females, who can only ascend by creeping up the trunk. Here and there a flying male was caught in the meshes set for his more helpless companions. The trees of this orchard, and indeed of a wide belt of country running through Cambridge and Brookline, including many noble elms and other shade trees, were last summer and the summer previous, completely stripped of their foliage and fruit by these greedy worms, and reduced to withered shreds, looking as if they had been scorched by fire.

These destructive insects have been fully described, and the remedies against their ravages pointed out by Prof. Peck, in the papers of the Massachusetts Agricultural Society, and by Dr. Harris, in a treatise on insects injurious to vegetation, published by order of our Legislature. Our farmers, however, either from faithlessness in the prescribed remedies, or shrinking from the laborious care and watchfulness involved in the application of them, have hitherto very much neglected what they must now be satisfied would have been a wise and perhaps wholly effectual precaution. A single orchard in this vicinity, which in good seasons has produced from a thousand to fifteen hundred barrels of the best apples, has for two or three years past been reduced, by these merciless marauders, to a perfectly barren wilderness.

The canker-worms complete their devastation about the middle of June, when they descend and burrow in the earth to the depth of from three to

six inches, and undergo their transformation into chrysalids. It has been generally supposed that they come out of the ground only in the spring; but it is now known that they begin to make their appearance in the autumn; and in mild winters they continue to emerge from their cells during every month from October to March. The occurrence of mild weather after a severe frost, like that which has just been experienced, stimulates some of them to burst their chrysalis skins and come forth to commence their instinctive preparations for another summer's campaign. They come out of the ground chiefly in the night. The males, it is said, are more abundant in the spring. The sluggish females make their way to the nearest tree, followed by the winged and active males, who flutter about and accompany them in their ascent, during which the insects pair. Soon after this the females lay their eggs upon the branches of the trees, placing them on their ends, close together in rows, forming clusters perhaps of a hundred eggs, which is the number usually laid by each female. The eggs are glued to each other and to the bark by a sort of varnish, which is impervious to water. Having thus provided for a succession of their devastating reign, they languish and die. The eggs are hatched in May, about the time that the leaves of the apple tree begin to start from the bud, and the worms gather upon the tender leaves and live and grow upon the growing foliage. They leave off eating when about four weeks old, by which time they have generally made clean work of the luxurious feast which nature, through the farmer's neglect, has provided for them.

The methods for preventing the ravages of the canker-worm, which have been tried and found more or less efficacious, are: to apply tar or oil around the body of the tree, either directly upon the bark or over a belt of clay mortar, or on a strip of canvass or strong paper; to nail boards together around the base of the tree, smearing them out-side with tar: to place circular troughs of tin around the tree, filled with tar or fish oil, or a belt of cloth smeared with melted India rubber, &c. Either of these remedies is attended with considerable trouble, for the tar or whatever is applied to arrest the progress of the insects, must be renewed and kept fresh as long as they continue to rise. Sprinkling the trees to destroy the worms when first hatched, has been practised with some success; but this method is troublesome, expensive, and uncertain. It has also been recommended to dig around the trees after the worms have descended to the ground, and remove the soil. But the application of tar is probably the most economical and efficacious mode of waging war upon this annoying enemy.—*Traveller.*

For the New England Farmer.

A TWO-ACRE FARM.

MR. EDITOR:—The article recently in the *Farmer*, giving an account of a "one acre farm," has led me to think I might possibly make a statement of facts that would be valuable, and I forward the same to you, hoping you will use it just as it deserves.

Nine years ago last spring I came into possession of a two-acre farm, and at that time it was barely possible to get one ton of hay from the whole of it, such was the state of cultivation it was in. It was all in mowing at the time, except one-eighth of an acre that I sowed oats on, and they were so small that a good stout grasshopper could eat the heads off by standing tiptoe. Circumstances prevented me from making much improvement on it until 1849 or '50, and now for the result of the past dry season:

2½ tons hay, at $8 per ton	20,00
12 bushels corn, at 80 cents per bush.	9,60
Corn Fodder,	1,00
2 loads pumpkins	1,00
21 bush. potatoes, 30c "	6,30
2 bush. beans, 9½c "	3,00
38 bush. carrots, 30c "	11,40
32 bush. turnips, 20c "	6,40
10 bush. graft apples, 50c "	5,00
Garden sauce	5,00
Growth of 140 standard apple, plum, cherry and pear trees, 10c each,	14,00
Growth 250 nursery trees, 2d year, 5c each	12,50
" 1100 " " 1st year, 3c each	33,00
" 1000 seedlings, ½c each	5,00
Total	133,20

Perhaps some may think it is impossible to have so much on so small a surface. I would just say that my beans and carrots grew amongst the nursery trees, and the most of the turnips amongst the potatoes. On one small patch I raised a good crop of green peas, potatoes and turnips; the peas were planted in the hills with the potatoes, and the turnips set both ways between the hills, getting three good crops on the same land in the same season, and neither crop appeared to injure the other—at least they all did well.

Now if this will stimulate any other two-acre farmer to do the like out of nothing, I have my reward. Truly yours, H.

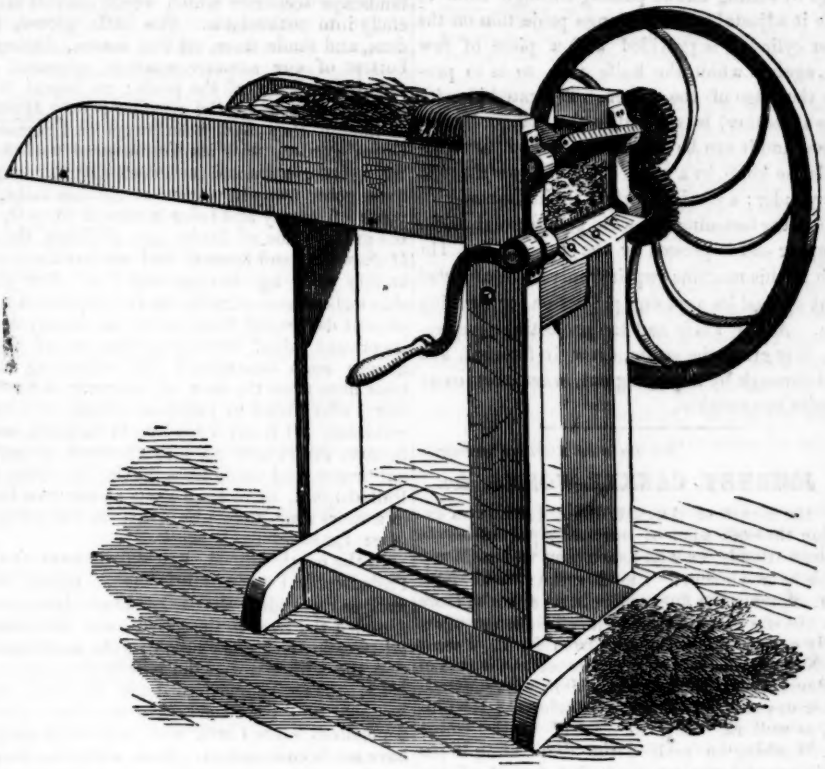
Nov. 13, 1854.

WINTERING CABBAGE PLANTS.—Any method simple and inexpensive, for preserving of autumn sown cabbage plants through the winter, is a valuable consideration. We know of none better adopted for the great bulk of people, than the following, practiced to a considerable extent by market gardeners, and in dry, sandy or upland soil, with good success.

Towards the end of October, prepare some rich well-dug ground; drew some deep drills eighteen inches apart, and plant the cabbage one foot apart in these, on the sunny side of the drills, so that the plants may have all the benefit of the sun in the fall before severe frost, and in early spring. When the frost sets in fairly, place some straw, or other light material crossways of the rows, which will effectually keep the sun's rays off during winter, which is the great point to be attended to. At the approach of spring, remove the covering, and as the plants grow, draw a little of the soil to their stems.

If they stand the winter well, they will be in advance of those planted in the spring. The strongest of the plants from the sowing made last month, should be selected, while those weaker will do to winter as recommended in a previous paper. —E. S., *in Country Gent.*

DEADENING TIMBER.—When the bark slips freely in June, July or August, it is the best time to girdle trees. Cut the small growth three feet above the ground; the roots do not sprout, and the stumps are more easily removed.



GALE'S STRAW CUTTER.

The improvements in agricultural implements —although very great within the last ten or fifteen years—will not exclude still further changes. The inventive genius of our people will not be idle, so long as the agricultural interest demands more help from the inventor and the mechanic. There are implements still wanted, which would not only save a vast amount of human toil, but pay thousands of times over, in the saving of seeds, or in the aggregate of crops.

Among the recent improvements on a valuable machine, which has been many years in use, is one represented in the cut at the head of this article. In order to test its capabilities, we have used it with all sorts of fodder usually found in the barn of the farmer,—hay, straw, corn stalks and the butts and husks,—and with them all it performs the desired work with great rapidity and ease to the person using it. Combined with these good qualities, it is so simple in its arrangement and construction that the farmer himself will be able in most cases to repair any injury either by accident or the natural wear by use.

The machine is for sale at different prices, according to size, at the agricultural warehouse of Nourse & Co., 9 & 13 Commercial Street, Boston.

We again urge upon our friends, those who have but a single horse or cow to winter, the economy of cutting the fodder which they are to consume. Hay is worth $22 to $24 per ton in the cities, and from $16 to $20 in the country towns, and the crop may be made vastly more serviceable by being cut.

The engraving, and the following description, will give the reader a pretty good idea of the construction of the machine.

On the 12th day of September last, a patent was granted to Mr. Warren Gale, late of Troy, New York, for the improvement in straw cutters represented in the annexed engraving. The nature of the invention relates to the knife (or knives) of the cutting cylinder, so that it shall cut against a flange (or flanges) on the opposite cylinder. The frame of the machine is like that of common straw cutters; the shaft of the cutting cylinder is driven by a crank handle, and has a

cog wheel on it, gearing into another above, giving motion to the cylinder against which the knife cuts the straw. The cutter is attached to a flange by setting screws passing through slots to make it adjustable. The flange projection on the upper cylinder, is provided with a piece of raw hide, against which the knife cuts, so as to protect the edge of the latter. Tho raw-hide (or piece of leather) is secured to the flange by set screws, and it can be adjusted, or forced down towards the knife, by a screw passing down through the cylinder; a slot is therefore cut in the raw-hide to allow the fastening screws to pass through, while its upper end is pressed by the top screw. The knife in this machine requires only to be adjusted to cut against its opposing projection, or rotating table. As the knife and the projecting piece rotate, they grasp the straw, draw it forward, and cut it through by a pincing cut, when they come opposite one another.

For the New England Farmer.

A JOURNEY, CANKER-WORMS, &c.

In the month of August, 1854, I made an excursion through some of our principal cities to see some friends, as well as wishing to benefit my health by a journey. I made some stay at New York, enjoying the fine scenery in its suburbs more than the din of the city, or the officiousness of its greedy cab-drivers. Passing from N. Y., I went into New Jersey, where many important events of the Revolution took place. New Jersey is renowned for her unparalleled sufferings during the Revolution, as well as being the seat of battles where Gen. Washington revived the desponding hopes of his countrymen by capturing a part of the British army at Trenton. Riding through New Jersey and some of its principal cities, reminded me of the by-gone days of Washington's army, with their bleeding feet, capturing the Hessians. This State had its share of the drought, it being at its height at the time I passed through it,—vegetation seemed in a suffering condition, the corn would probably fall short of a full crop. I have an idea that, in this State and Pennsylvania, more corn could be raised upon the acre by substituting a variety which would ear nearer to the ground; the large butt end of the stock from the ground to where the ear forms, some four or more feet, exhausts the land to little profit. Were I a Pennsylvanian, I would select some large eared northern corn that eared nigher the ground, the King Philip variety, for instance, which has produced 100 bushels to the acre, and it would ripen in season on their rich land to give the farmer an opportunity to raise a second crop, on the same land, of turnips, or something else which would grow quick. It strikes me that the stock and the ear of the Virginia corn are entirely out of proportion to be profitable. I have no doubt that our northern corn looks diminutive to a Jersey or Pennsylvania farmer, but still their corn stocks which make such a gigantic appearance may gratify the eye more than enrich the raiser; a kind of corn which would produce larger ears in proportion to the stocks would be an object worthy of consideration and trial.

Passing the Delaware at Trenton into Pennsylvania, all the way to Philadelphia, nature and art seemed to have combined to display to the traveller a view, as he went along, of one of the landscape sceneries which would convert melancholy into enthusiasm. The little groves, gardens, and shade trees, at that season, during the hottest of our summer weather, appeared like the elysian fields of the poets; no aspect could be better suited to the weather; they appeared as though they had been swept and garnished. Copes' garden, with its five hundred varieties of the cactus, attracted numerous visitors, many of them going away in wonder at the ingenuity, expense of money and labor bestowed upon it, for the gratification of fancy and to please the eye. If New England farmers had set out shade trees twenty years ago to ornament their door yards, side-walks, and streets, their property at the present day would be estimated at nearly double its present value. It is surprising to see the influence such ornamental and refreshing shade trees have upon the man of property and refined taste, who wishes to purchase a farm, or country residence. It is never too late to do good, and if farmers would now go into the work of setting out ornamental shade trees as in the suburbs of Philadelphia, or in some parts of our own State, in a short time they would realize ten dollars or more for every day's work.

In the neighborhood, and to what extent from Philadelphia I was not informed, a worm, in its ravages resembling the canker-worm, infested and denuded the trees in the groves, and the ornamental trees in the streets much in the same manner that the canker-worms did here in May and June, 1853. They commenced their depredations in August, and continued their ravages to the 7th September, when I left, and how much longer I have not been informed. But, after all, there is no place without its disadvantages, though there may be, without advantages. This Eden about Philadelphia lacks the fruit trees and fruit, the uncultivated hills covered with forests, the good cold water, and perhaps the exhilerant air, which we have about Boston. Their land is too rich and valuable to appropriate to forests near the city, and therefore they are destitute of that rude, enchanting wildness, which is so pleasing to a lover of natural scenery. Excess of the beautiful is cloying after a while, and even shrub oaks are pleasing for variety's sake. On my return to Boston, the contrast was striking; it seemed like a "city on a hill," the buildings and streets, how airy and clean, and every man in the streets apparently a gentleman.

SILAS BROWN.

Wilmington, November, 1854.

TO PREVENT SMUT IN WHEAT.—Our *neighbor* of the *California Farmer* says he received the recipe below from a practical farmer who had used it for several years, and always found it effectual.

RECEIPT FOR SAVING WHEAT FROM SMUT.

Take one pound of blue stone, dissolve it in water, and sprinkle it over four bushels of wheat the day before you sow it.

I never knew it to fail.

OSCAR P. V. KALLENBACH.

LONDON VEGETABLE MARKETS.

We have received from our attentive correspondent at Liverpool, a copy of the *London Journal*, in which we find the following table, giving an account of the kinds and quantities of vegetables sold at several of the markets of that city. The article was prepared for the *Morning Chronicle*, and we presume gives the amount sold for a year, although it is not so stated in the returns.

COVENT GARDEN MARKET, all of home produce:

Apples—360,000 bushels.
Pears—280,000 do.
Cherries—90,000 do.
Plums—280,000 half-sieves, or 93,000 bushels; three half-sieves go to a bushel.
Gooseberries—140,000 bushels.
Currants—Red, 70,000 sieves; white, 3800; black, 45,000, or 178,200 half-sieves; being the produce of 1,069,200 bushes, as 6 bushes on an average fill a sieve.
Strawberries—58,000 half-sieves, or 638,000 pottles; 11 pottles go to a half-sieve.
Raspberries—30,000 sieves, or 22,500 bushels.
Walnuts—20,000 baskets, each 1¼ bushels, or 25,000 bushels.
Cabbages—16,000 loads, 150 to 200 dozen each, or 33,600,000 cabbages.
Turnips—10,000 loads, 150 dozen each, or 18,800,000 turnips.
Carrots—5,000 loads, 200 dozen each, or 12,000,000 carrots.
Onions—500,000 bushels.
Brocoli—including cauliflowers—1000 loads, 150 dozen each, or 1,800,000 heads.
Peas—135,000 sacks. A sack is two bushels.
Beans—50,000 do.
Celery—1,500,000 rolls of 12 each, or 18,000,000 heads of celery.
Asparagus—400,000 bundles of 150 each, or 30,000,000 buds.
Endive—150,000 scores.
French Beans—140,000 bushels.
Potatoes—33,000 tons.
Watercresses—21,060 hampers or 26,325 cwt., each hamper being 1¼ cwt.

BOROUGH MARKET. In all the returns "cauliflowers" are included under the head "brocoli."

Cabbages—8000 loads, 200 dozen to a load, or 19,200,000 cabbages.
Turnips—2000 loads, of 200 dozen each, or 4,800,000 turnips.
Brocoli—1576 loads, of 200 dozen each, or 3,782,400 heads of brocoli.
Carrots—442 loads, 300 dozen each, or 1,571,200 carrots.
Potatoes—36,000 tons.
Peas—25,000 sacks.
Beans—10,000 sacks.
Currants—30,000 bushels.
Cherries—45,000 bushels.
Strawberries—10,000 bushels.
Gooseberries—35,000 sieves.
Apples—25,000 bushels.
Pears—10,000 bushels.

SPITALFIELDS MARKET, all home grown:

Potatoes—55,000 tons.
Peas—50,000 sacks.
Beans—5000 sacks.
Cabbages—5000 loads, 200 dozen to a load, or 12,000,000 cabbages.
Turnips—2000 loads, 200 dozen to a load, or 4,800,000 turnips.
Carrots—1000 loads, 200 dozen to a load, or 2,400,000 carrots.
Brocoli—1200 loads, 200 dozen to a load, or 2,880,200 bushels.
Cherries—15,000 bushels.
Apples—250,000 bushels.
Pears—83,000 bushels.
Plums—45,000 bushels.
Gooseberries—91,500 bushels.
Currants—45,000 bushels.
Strawberries—12,000 bushels.
Raspberries—2500 bushels.

It is a curious fact connected with this market, that whatever produce is sent to it from Enfield, in Middlesex, is subject to neither turnpike nor market tolls; an exemption granted to Enfield, because, during the Plague, in 1665, vegetables and fruit were sent almost exclusively from thence—of course at the risk of the lives of all who ventured into the pest-stricken city.

FARRINGTON MARKET:

Potatoes—14,000 tons.
Peas—7,000 sacks.
Beans—1200 sacks.
French Beans and Scarlet Runners—3,000 bushels.
Cabbages—3500 loads of 200 dozen each, or 8,400,000 cabbages.
Brocoli—1300 loads, or 5,320,000 heads.
Turnips and Carrots—700 loads, averaging 50 dozens a load, or 504,000 turnips and carrots.
Onions—6,000 bushels.
Gooseberries—12,000 bushels.
Currants—5,000 bushels.
Cherries—12,000 bushels.
Plums—3,000 bushels.
Apples—35,000 bushels.
Pears—20,000 bushels.
Strawberries—450 bushels.
Watercresses—46,800 hampers, or 58,500 cwt.
There are also 60,000 flower roots sold in a year.

AGRICULTURE IN NORTH CAROLINA.

We have before us an address delivered by the Hon. KENNETH RAYNER, of Hertford, before the North Carolina State Agricultural Society, in October last. Mr. Rayner was for several years a member of Congress from that State, and was an active politician. We are glad to find that he has turned his attention to the development of the agricultural resources of the "Old North State," and hope that through the influence of the State Society, thousands of the acres of sand and pine barrens within her borders may be brought into a state of beauty and fertility. Below are extracts from the Address, all we have room for at present.

EFFECTS OF SCIENTIFIC DEVELOPMENT.

It is our good fortune to live in an age of wonderful invention, of startling scientific development. It is emphatically the age of rapid progressive improvement. The striking peculiarity of the knowledge of the age is its direction and application to useful and practical ends; in ministering to the necessities, the comforts and luxuries of man. In fact it is the demand for that species of knowledge, that is whetting invention, stimulating ingenuity, and taxing intellect for its mightiest achievements. Geology, mineralogy, chemistry, botany, zoology, and natural philosophy, are not now cultivated, as the mere avocations of intellectual research, or to satisfy the philosopher's abstract thirst for knowledge; but as the instruments by which man is to subdue the material world to his control, and apply the immutable laws of nature to the satisfying his wants. A minute knowledge and classification of primeval rocks, from the disintegration of which the soil is composed—the deductions arrived at from an acquaintance with the various strata and fossil deposites of the crust of the earth—an examination of the constituent elements of all material nature, their relations, affinities and repulsions for each other—an acquaintance with the structure and vegetable physiology of plants and trees and flowers; and the principle of their growth, decay and reproduction—an understanding of the peculiarities, habits and capacities of animals, whether of the higher type or of crawling insects—the study of those laws of motion, and physical forces, by which Infinite wisdom governs the boundless universe—all these branches of knowledge are pursued with a vigor and tenacity unknown to the votary of ancient learning, and to answer the purposes of practical utility. They are made to serve the purposes, and direct the course of the miner in his search for mineral treasures in the bowels of the earth; and in ransacking the coal-fields which nature has laid aside in her great store-house for the use of man, after the forests have fallen before a redundant population. They afford data by which the physician

is enabled to minister to human suffering; by which the manufacturer imparts the tints of beauty to his fabrics; by which the cutler tempers the edge of the implements of labor. They direct the engineer as he drives his car careering over the land—or propels his ship against wind and current.

INFLUENCE OF RAILROADS ON AGRICULTURE.

One of the most striking manifestations of the industrial enterprise of the age is in the struggle man is now engaged in, with the obstacles presented by nature—in opening channels of communication, in laying down the pathways of trade and commerce, in pioneering the way for the iron rail and steam-engine. The vast stores of the Incas of Peru dwindle into insignificance compared with the hundreds of millions that have been expended in these monuments of human industry in the United States, in England in France; and their march is onward towards the steppes of Asia. In their construction man has achieved victories over the elements, of which Archimedes never dreamt. It was the boast of Napoleon, that whilst Hannibal had scaled the Alps he had turned them—but the engineer has done more than either of these great conquerors; he has tunnelled them, not for the march of desolating armies, but for the transit of the products of the pursuits of peace—for the conveyance of the traveller in comfort and safety beneath the roaring avalanche above his head. And what are railroads, but the veins and arteries, through which the products of agriculture, either in their crude state, or as fashioned in the workshop, circulate, in seeking the market of commerce? Whilst railroads are dependent upon the products of agriculture, yet the two are inseparably identified in interest. They act and react on each other. It is upon the productions of the field and the workshop that the railroad must rely for the materials of freight, the very means of subsistence—but then again, the construction of the railroad, by the benefits conferred, in contiguity to market, cheapening the cost of transportation, increased convenience in procuring the comforts and luxuries of life, affords a stimulus to the land-owner, to improve his land to its highest capability of production; and as the products of the land are increased, the railroad finds increased employment, and enhanced profits.

CHANGE OF FOOD.

There appears to be, in all animals, a propensity frequently to change their food, the periodical indulgence of which, within reasonable limits, is highly conducive not only to the gratification of the appetite, but to the promotion of health. In our own species, this propensity is strikingly displayed, and the necessity for its gratification is incontestably demonstrated by the fact that individuals confined for any considerable length of time to the same diet, are much more liable to disease and loss of health, than those who indulge in a variety. This is evinced by the extreme prevalence of those fatal maladies attending long voyages, where the seamen are necessarily restricted for months to the same rations. Dogs, cats, and other domesticated animals, confined for an anundue period to one sort of food, though it be of a character naturally adapted to their wants, have been known to sicken and die. The only exception to this rule, perhaps, is found in those anomalous cases where the food is of the simplest and most humble kinds; as, for instance, the potatoes of the Irish, and the no less simple aliment of the people under the tropics.

A consideration of this fact is of the greatest consideration to farmers, who, though frequently guided in the treatment of their domestic animals by the most benevolent sympathies, are yet liable to err, and commit involuntary mistakes on nature, purely through a misconception of the necessities imposed by an irreversible natural law. In feeding cattle of all kinds, it will be found that a variety of food is always better than an unvaried course. The same article falls, by repetition, upon the palate, and a dislike is engendered for food, which, though nutritive and sapid enough in itself, when craved by the appetite, long and compulsory habituation deprived of *all* its natural attractions, and invests with attributes that cause it to be contemplated, even in hunger, with loathing and disgust.

FRENCH GARDEN IMPLEMENTS---STONE---LABOR.

I sometimes wonder that anything grows in France, the tools used in gardening and in agriculture are so uncouth and unhandy. The hoe, an instrument of constant use, has a handle but two feet long, so that the hoer is obliged to bend into the very earth, in order to reach the object of his care. He thus has his back continually horizontal—a position as laborious and painful as it is degrading, for it gives to a man the appearance of a beast of the field, crawling on all fours. The French spade is even worse. The handle is straight, like the American hoe; it is not furnished with a hand-piece at the end, which at home is thought to increase its efficiency twofold. This tool is a monstrous misapplication of strength to labor, and, as might be supposed, performs very small days' work. In fact, the spade and the shovel are both one, whereas they ought to be as distinct as poker and tongs. The rake, an ornamental instrument at best, is furnished with nails in the place of teeth; but as it is often double, being a rake on both sides, it is a tolerably vigorous utensil. The watering-pot, on the other hand, is a superior article. It is constructed on mechanical principles. The two handles—the carrying and the watering handles—form but one handle, passing along the top to the side. The gardener thus slides his hand from the one position to the other, and may hold a watering-pot in each. The wheelbarrow is an ill-built affair, and usually creaks. The mortar used in the construction of stone walls is the best in the world. In two hours it is harder than the stones it cements, and never, at any age, does it crumble to pieces. It is expensive, and even the wealthiest proprietors resort to the following expedient to diminish their consumption of it. At every twenty

feet of the wall to be built, a fragment of it—say a portion two feet wide—is made with mortar, the rest is cemented with mud—the commonest mud, made upon the spot, with any earth that happens to be at hand. The whole wall is then faced with mortar, thus assuming a similar appearance in its whole length. The result is a wall that will last for centuries, there being no frosts powerful enough to upheave or disjoint it.

I said the mortar was stronger than the stone. No one who has ever seen French building-stone, in the neighborhood of Paris, can form even a remote idea of what it is. The masons snip it, shape it, edge it, as if each lump were a pine-apple cheese. I have seen the adze penetrate a block as it would have penetrated a ripe watermelon. This quality, which adds to the facility with which it is adapted, is in no way disadvantageous. The stone will bear any weight, and never splits or chips of its own accord. With time its color changes from a rich cream color to a dingy brown, but a scrape every five years restores it. Its softness is in fact as great an advantage as malleability is to a metal; for while it is as easily fashioned as cheese, it is as durable as granite.

I told you that I once hired an old woman to weed a gravel path and strawberry bed. I am happy to state that this venerable creature is now well provided for. She and her good man are engaged as husbandmen upon a neighboring farm. They work twelve hours a day, steadily, and she performs the same labors, and quite as much labor as he. She digs, weeds, plants, "snatches" potatoes, trains grape-vines, mounts drays, ascends ladders, gets into trenches, sinks wells, like the veriest male of them all. I sat the other day upon a hay-cock of her making. She is richly bronzed, and her limbs—which she exposes with an agricultural freedom—are gnarled and knotted to a degree quite unusual with the sex. The two are boarded and lodged by their employer, and the wages they get are proportionately reduced. Still, the smallness of the figure will astonish you as it did me. They earn, together, $180 a year—being thirty cents a day for him, and nineteen cents a day for her. They lay by $100 a year, and when they are too old to work, will be able to keep them out of the poor-house and avoid the hospital, even though saddled with sickness in addition to poverty.—*N. Y. Times.*

PREPARE FOR WINTER.

Winter is at hand, with its storms of sleet and snow, and all necessary preparations for the comfort and thrift of his stock should be made by the farmer. These duties will now nearly monopolize his attention. Every season has for him its appropriate and varying work, and that of winter brings him often among his domestic animals, as their sustenance and shelter is mostly provided by his care and labor. On these subjects we offer a few suggestions.

Considerations of economy as well as humanity should induce attention to the protection and shelter of domestic animals in inclement weather. Less food is required to sustain in thriving condition an animal kept in a comfortable stable, than one not thus sheltered. The vital heat must be kept to a certain point—about 100°—and this is done by the food consumed, which serves as fuel to sustain that temperature. A sheltered position tends to keep up the animal heat, while exposure decreases it, or rather makes more food or fuel requisite to support it. An equable temperature is also more healthy than one continually changing. No animal, however hardy it may be, can be exposed to a winter storm, especially a drenching rain, without injury to its health and condition. The moisture may rapidly evaporate, but every drop of water thus passing off, takes with it a portion of vital heat as it rises.

Comfortable stables and sheds for horses, cattle and sheep—not neglecting the pigs and poultry—are a part of the essential requisites of a good farm. Still they may not always be conveniently provided, and in such cases, one should do his best to prepare a substitute. Sheds may be built of poles, rails or boards, and straw, which will shelter sheep and cattle almost as well as more costly structures—though of course not as conveniently. When built of rails, the walls should be made double and filled in with straw, which may be also used as a thatch; or evergreen boughs answer well this purpose.

It is poor policy to pinch stock in the early part of winter. Let them be kept in good heart, if it can be done, from first to last, and if they must be put on short allowance, let it be at the close of the season. To make the best of the fodder, a straw-cutter in the barn is a prime necessity. Corn stalks cut fine are eagerly consumed by cattle; and clover, and all coarse hay goes much farther when cut, and even the best of hay is increased in value by this preparation. If grain of any kind is fed, it should be ground and mixed with cut straw, first moistened with water. It will be better digested, and consequently less will be required. Apples and roots are of as much value as food for all kinds of farm stock.

Much may be done towards increasing the quality and quantity of the manure heaps. The stables should be kept well littered, for the comfort and health of their occupants, and the pigpen be supplied with the raw material for the young porkers to manufacture. Muck, leaves from the woods, coarse hay and such absorbent materials will add much to the value of this "essential to productive farming"—manure. Enough of these or of straw should be mixed with the horse dung to prevent its heating, and to take up the liquid portion of the same. No farmer who studies true economy, will suffer any fertilizer to go to waste which his reasonable care can save.

Water as well as food is necessary. This should be brought into the yard, if it may be, so that every animal may have the supply his wants demand. It is an excellent plan to have proper cisterns constructed to take the water from the barn roof, where springs are not available, and in this way a full supply of the best water may by secured.—*Wool Grower.*

New Food for Sheep.—Whilst I was at Geneva, I observed every one collecting carefully the fruit of the horse-chestnut, and on inquiry I learnt that the butchers and holders of grazing-stock bought it readily at a certain price per bushel. I inquired of my butcher, and he told me it was given to those sheep in particular that

were fattening. The horse-chesnuts were well crushed; something in the way, so I understood, that apples are, previous to cider being made. They are crushed or cut up in a machine kept solely in Switzerland for that purpose; then about two pounds' weight is given to each sheep morning and evening. It must be portioned out to sheep, as too much would disagree with them, being of a very heating nature. The butcher told me that it gave an excellent rich flavor to the meat. The Geneva mutton is noted for being as highly flavored as any in England or Wales.—*E. D., in Agricultural Gazette.*

WINTER MANAGEMENT OF SHEEP.

In wet weather it is of great advantage to be able to fodder under shelter. I have abandoned the practice of salting my hay, except when compelled, by stress of weather, to house it before it is thoroughly cured. My sheep are salted about once a week the year round, and instead of giving them tar, as recommended by some persons, I occasionally strew the yard with pine boughs, of which they are fond.

I regard the fall management of lambs one of the most important branches of sheep husbandry. Having paid for my experience on this point as well as that of winter shelter, I can speak with confidence. They should be separated from their dams about the first of September, and with a few old sheep, that require nursing, turned to the best pasture. Care should be taken that they are not stinted till removed to winter quarters, when they should have a small allowance of grain or oil-meal in addition to a plentiful supply of good hay. As soon as the pasture begins to fail, the ration of grain should be supplied. By neglecting to provide suitable pasture for a lot of upwards of 100 very superior lambs one season, I lost the greater part of them the ensuing winter. My utmost efforts, after I discovered the error, were of no avail. I gave them a comfortable shed, plenty of litter, good hay, a regular allowance of meal, and free access to water; but they never recovered, and the greater part died before spring.

My bucks and ewes are put together about the first of December. The flock which I keep at my home barn, under my own eye, and from which I raise bucks for the supply of my own, and many of my neighbors' flock, is managed in this way. The ewes, in lots of 20 to 35, are placed in separate pens, and a select buck is turned into each pen, where they are kept together 15 or 20 days. The ewes in each pen are marked with a letter in tar and lampblack, to indicate what buck they were served by. At shearing time, the best buck lambs are selected, and receive a mark to denote their origin.

In my judgment, water is as essential to sheep as it is to any other animal. They will go through the winter on snow instead of water, and so would a man or horse, if compelled by necessity to do so; but either would prefer to have it thawed before using it, rather than perform that office in his bowels.

When my sheep run in large flocks without shelter, they were occasionally affected with the scab, but since I have provided comfortable sheds for them, they have been troubled with no serious disease. This climate is well suited to sheep.—E. KIRBY, *Jeff. Co., N. Y., in Morrell's Shepherd.*

For the New England Farmer.

TALK ABOUT GUANO.

BY HENRY F. FRENCH.

At the annual meeting for the election of officers of the Rockingham Fair, last week, part of the day was devoted to a discussion of the use of Guano and Super-phosphate of Lime. Many farmers in this county have made experiments with both in various ways, and I have been intending, if that *leisure time*, of which we sometimes fondly dream, ever should arrive, to collect the experience of our farmers and publish it for the good of the community. Enough facts might be brought together from what has been done with these fertilizers in this county alone, to afford pretty satisfactory means of conclusion as to the advantages of their use. Before proceeding farther, it may as well be suggested, that I shall not undertake just now to be very decided in the expression of any opinion on the subject, for fear I may not agree with the principal editor. One gentleman, who did not seem to have a realizing sense of the Protean character of editors, said in our meeting, that he heard *Professor* Brown say at the State Fair in New Hampshire, that he had no doubt that the guano used in Mass., the past season, had done the farmers much more hurt than good.

This statement was received with manifest surprise, and inquiries were at once made as to what sort of a *Professor* this could be. Some one suggested that it must be Professor Brown, of Dartmouth College. "No," said our friend, "it was the gentleman who delivered the address at the State Fair." The Editor of the *N. E. Farmer*," added another. "The Lieutenant Governor elect, who delivered our annual address last year," remarked a third, and then followed the usual shout of laughter, which puts every body in good humor, when the subject of Massachusetts politics is named, since the last election. Now, it may readily be conceived, that a man may be a Know Nothing in politics, and yet know *something* in agricultural affairs! Possibly, it may be true, that guano has injured crops in some localities, more than it has benefited them.*

If so, it must be, because it was improperly applied. The man who put half a pint of salt in each hill for potatoes, concluded that salt, as a fertilizer, is a humbug, and a farmer who should give his colt a peck of corn at once, would probably infer from that single experiment, that corn is poison to colts. Every one who has used guano, has doubtless been informed that it is so pow-

* What we said at the meeting at Keene, was, that great losses had occurred in Massachusetts the present year in the use of guano, but not that those losses were greater in the aggregate than the benefits derived from its use,—for of that we had no means of judging; and this loss, we represented as springing from the want of a proper knowledge of its application to the various soils and crops.

erful, that corn and even potatoes will refuse to vegetate, if the seed be placed in contact with it. Many persons destroyed their seed last season, by placing it over guano, imperfectly covered. If you converse with these persons, you will find most of them will declare, they did cover the guano an inch or two deep, at least, before dropping the seed, and if you pursue the investigation further, you will, in nine cases out of ten, ascertain that the covering was done with *the foot*, and not with a hoe. It is true, that it makes no particular difference how the earth is put upon the guano, provided it be thoroughly done; but where we see men go into the field and actually cover an acre of corn or potatoes with a cowhide boot, instead of a good polished steel hoe, we shall continue to look upon the *kicking* process with suspicion. With the help of my boy Willie, of ten years old, I applied guano to about an acre of corn, at the rate of one ounce to the hill, and covered it about an inch and a half deep, with a hoe, with my own hands, and not one single hill was injured, and the whole was much benefited, while close by, on similar land, part of a neighbor's cornfield to which guano had been applied, looked as one might imagine Sodom and Gomorrah to appear, after the first shower of fire and brimstone. One-half the piece was nearly destroyed, while the other grew very handsomely. I inquired the reason of the difference, and was informed that the first half was carefully covered with a hoe, and the other with the foot.

For one, I am not yet prepared to admit that guano is not to be used to advantage, by our farmers in New England.

That it will supercede the use of other fertilizers, no sensible farmer will pretend, and no one should neglect to use all the means which Nature has put within his control to increase the quantity of manure on his farm. But, after we have carefully saved everything from the stable and barn and vaults and sinks and swamps and woods, we often have not enough, and sometimes may purchase with profit. Everybody knows something of the labor and expense of hauling and composting stable manure, and the time necessarily consumed in these operations. If we consider, that when we have loaded a ton of manure in our barn cellar, and hauled it out with four oxen, and perhaps laid it in a large pile, and afterwards reloaded it, and dropped it in small heaps, and once more handled it all over in spreading, if we consider that of the whole ton, all but four hundred pounds is *water*, just such as we are deluged with every spring, it does not seem unreasonable that farmers should look carefully for some more concentrated form of fertilizers. My intention now is, to say enough to keep the subject in mind, as still an open one, for while we have not yet experience enough in the use of guano, to satisfy us how it may be used to the best advantage, there can be no doubt that it is a powerful stimulant and fertilizer, when properly applied.

The great question yet remains open, whether at the present prices of guano, and of crops, it can be profitably purchased.

I will now give a statement made by Mr. Rufus Sanborn, of Hampton Falls, at the meeting before named, as I pencilled it down, when he gave it. It may be remarked, by the way, that the Hampton Falls Farmers' Club, of which Mr. Sanborn is a member, has been conducting a course of experiments, with the various fertilizers, which may be of great service, if we can procure them for publication.

Mr. Sanborn's first experiment was with potatoes. He planted them on dry land, on which he had applied sixteen loads of manure and plowed it in. He put one hundred pounds of Peruvian guano into the hills, on half an acre, leaving the rest with no manure except what was plowed in. He dug the potatoes in July, and sold them at an average price of one dollar fifty cents a bushel. He got just twenty-five per cent. more potatoes where the guano was applied, and they were of better size.

His crop was one hundred bushels to the acre. The value of the guano and labor of applying it was three dollars, and the gain by its use about twelve and a half bushels of potatoes which sold for $18,75. On another piece of similar land, he applied swamp mud in the hill, to the whole, and to a part Peruvian guano at the rate of 100 pounds to the acre, which increased the crop one bushel in ten. The crop was understood to be a later crop than the first, and to have been 200 bushels to the acre, so that the 100 lbs. of guano worth three dollars, gave twenty bushels of potatoes worth about sixteen dollars.

Mr. Sanborn applied 100 lbs. to three-quarters of an acre, and plowed it in for *Rye*, leaving a part of the piece with no guano. It was cut by his men in his absence, and not kept separate. The whole crop was twenty bushels to the acre, which he called a small crop. His opinion is, that there was fully double the quantity of straw, and nearly double the quantity of grain on the part where the guano was applied. He applied 200 lbs. to an acre for *Barley*, and increased his crop one-third by the means, as compared with a part of the field not guanoed.

The part on which the guano was used, gave a crop of fifty bushels to the acre, so that he got about twelve and a half bushels of barley, worth as many dollars, for about five dollars worth of guano, to say nothing of the increase of straw.

The barley was raised last year, and the land laid to grass. He says there was this year, no

perceptible difference in the crop of grass where the guano was used, and where it was not.

Mr. Sanborn said that he made the common blunder last year of an over dose of guano on his corn. He applied five hundred pounds to an acre in the hill, and burnt up his crop so that he lost half of it. This year, by no means discouraged, he repeated his experiment with corn. He plowed his land with a Michigan plow, sowed on 200 lbs. of Peruvian guano to the acre, plowed it again lightly, say six inches deep, put 100 lbs. in the hill, and 200 lbs. more round the hills, before the second hoeing, and gathered *ninety-eight* bushels of shelled corn to the acre, as measured by his neighbors, and received the first premium of our County Society, for his crop. He has no means of knowing how much the crop was increased by the guano, but stated that he had no doubt it added to it very much.

The foregoing is, perhaps, as much guano as is profitable for our readers, at one dose. There is a good deal going on in the Granite State, in the way of agricultural investigations, and nowhere more than in Hampton Falls. Mr. Sanborn, whose statements are given above, is a reliable man, who labors with his own hands, and whose object is to make his farming profitable. The testimony of one such man who *practices*, is worth that of two mere *professors* of agriculture. As soon as the facts can be collected, I hope to lay before the public further experiments, both in the use of guano, and of super-phosphate of lime, and I pray you not to declare the polls closed on these subjects, till the vote of Rockingham County is received. H. F. F.

Exeter, N. H., Nov. 20, 1854.

For the New England Farmer.

AUTUMN PLOWING.

Mr. Editor:—I am surprised at the remarks of our friend, H. S. Perrin, of Orfordville, N. H., in relation to fall plowing. It appears to me that no farmer, however inexperienced in cultivating the soil of New England, can fail to see that fall or autumn plowing is a benefit to the soil. In the first place, Mr. P. thinks that one-fifth of the manure applied is lost; this I conceive to be an error in which many persons indulge, but I cannot for my life see how the fertilizing qualities of the manure can escape by the simple process of turning under what remains upon the surface, after the crops are harvested. I find that lands plowed in the fall is not so liable to drought as those plowed in the spring. Fall plowing also serves to destroy those insects which deposit their eggs in the ground, and in the spring rise up by thousands and destroy the crops. If Mr. P. will take two acres of land, side by side, plow one in the fall and the other in the spring, equally manure both, I think he will find the result to be in favor of fall plowiing. A. K. P. W.

Quincy, Nov. 20, 1854.

MANURING.

It is a beautifully wise and sublimely grand provision of Providence, that the decomposition and decay of all matter, both animal and vegetable, is so closely connected with reproduction, thus forming a continual transmigration of matter, and verifying practically that great truth in philosophy, that not a particle of matter can be lost, although it exists at different times in different forms. This transformation is going on constantly before our eyes, in the growth and decay of vegetables, trees, &c.; as, for instance, the plant that is growing luxuriantly in genial summer, imbibing nutriment from decomposing materials, will itself, in return, mature, die, decay, decompose, and its elements contribute to the growth of successive vegetation in its vicinity.

These truths involve principles no less important or advantageous to the farmer than the moralist and the philosopher, as it comprehends manuring in all its variety; the only object of manuring being to furnish nourishment to the growing plant, and whatever undergoes decomposition, whether animal, vegetable, or mineral, does that. Every farmer should be aware of the fact, that carbonic acid gas is actually necessary to the health and growth of vegetation, and that whatever furnishes this gas should be applied as manure as far as practicable. With this view of manures, I make it an object, when preparing new ground for cultivation, not to draw off any rotten or decayed wood that can be plowed in, but rather to draw it on land where there is none, believing it to be as good manure as any other, although its effects may not be seen immediately. Every one who has cultivated a farm, must have observed that grain,—Indian corn in particular—will grow much larger than usual near an old fence or a rotten stump, or log, if there are any in the field. Now, it is evident that it is not owing to superior cultivation, that such is the case; but, on the contrary, land is seldom plowed as good close to a fence, or around a stump or a log, as other places; and we are left to the conclusion that it is the nourishment they impart that produces such effects; and when we have arrived at such a conclusion, we cannot fail to see how much better it would be to apply such things as fallen leaves, rotten wood, and all other substances that emit carbonic acid gas during decay, as manure, than to leave them to waste their richness in an uncultivated place.

Ventilation of Stables.—We have sometimes speculated as to which stable is most inimical to the health and comfort of horses, the one with an inch between each plank in the floor, a hole in the door, a clapboard off one side and a broken window in the other with a leaky roof, or a small, tightly built one without any means of ventilation. Unfortunately there are too many of each class in all sections of the country. But the number is, we trust, yearly getting less. See to it, however, you who have had energy enough to build a neat, good, substantial barn, that from lack of judicious ventilation your horses are not as much injured in eyes and lungs fron the lack of good air and the constant exhalation of noxious vapors, as they would be in other respects in the tumble-down barn of your neighbor Shiftless.—*Rural New Yorker.*

For the New England Farmer.

MORE ABOUT GUANO.

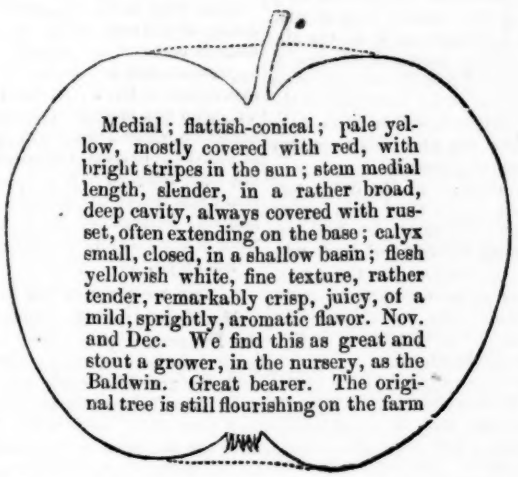
Mr. Brown:—I have perused with much interest your paper of this date, (Dec. 2, 1854,) and particularly the talk of brother F. about *guano*. This is just *the talk* for farmers. Plain facts brought forward in this familiar manner, will be read and remembered, when a formal essay will be passed without notice. I was particularly struck by the fine crop of corn grown by farmer Sanborn, of Hampton Falls—98 bushels of corn, actually *shelled* and measured, as the product of one acre, is what does not often happen on the farms of New England. I have heard of larger crops, *Plymouth measure*; but when inquired into, there is found some exceptions about the measure. I have seen many fine crops of corn, but never one that yielded better than this Hampton crop. How much of this is to be credited to the *three times plowing the field*, how much to the *manure spread upon the land*, and how much to *the guano*, it may not be easy to distinguish.

I am glad to know that any of our farmers can give a favorable account of the use of *guano*. So far as I have witnessed its use the present season, except where it was applied to grass land in the early part of the season, but little benefit has accrued from it. As at present advised, I should prefer *ashes* at *ninepence* a bushel, to *guano* at $50 per ton, for the growing of grass; and I should prefer ten cords of good stable manure to a ton of guano for the growing of carrots, turnips or onions. I cannot learn that our growers of onions have experienced any benefit whatever from the application of guano to their onion fields. My late worthy friend, Dr. N., thought, two years ago, that it improved his crop; but it will be remembered that he applied ashes to the same land—therefore he could not be certain which medicine wrought the cure. I would not discourage the use of guano, but I am by no means satisfied that it will be found worth using.

Danvers, Dec. 2, 1854.

P.

THE HURLBUT APPLE.



Medial; flattish-conical; pale yellow, mostly covered with red, with bright stripes in the sun; stem medial length, slender, in a rather broad, deep cavity, always covered with russet, often extending on the base; calyx small, closed, in a shallow basin; flesh yellowish white, fine texture, rather tender, remarkably crisp, juicy, of a mild, sprightly, aromatic flavor. Nov. and Dec. We find this as great and stout a grower, in the nursery, as the Baldwin. Great bearer. The original tree is still flourishing on the farm of Gen. Leonard Hurlbut, Winchester, Ct. It bore 40 bushels one year, and 20 the next. One of the finest of the season, for the dessert and kitchen.

Mammoth Oxen.—There is now on exhibition near the Fitchburg Depot, Boston, a pair of Oxen said to weigh *ninety hundred pounds!* One of them girts *twelve feet and one inch*, and is *eighteen feet in length*, from the tip of the nose to the end of the tail, and is *six feet and four inches high!* They were raised by Mr. William Paddock, of Hoosick, Renssellaer county, New York, and worked and fattened by Mr. John Lee, of Washington county, same State. They are bright and active, and well worth looking at, and the ninepence which it costs for the opportunity to do so.

For the New England Farmer.

A MAGNIFICENT PAINTING.

Many of your readers are doubtless aware that many years ago Congress selected an artist to paint a picture for the vacant panel in the rotunda at Washington. William H. Powell, was the almost unanimous choice. After *five years* of labor, the picture is completed. The subject of the painting is, "*De Soto discovering the Mississippi.*" A few words of history will render the description more intelligible. De Soto was Governor of Cuba. In April, 1539, he set out in company with several hundred men, on an exploration through Florida to the Mississippi River. He had been an officer under Pizarro in Peru, and perhaps expected to find gold among the Indians.

"The picture represents the discovery as taking place at the last of the Chickasaw Bluffs below Natchez. De Soto, after months of laborious travel, has just arrived on the banks of the mighty

river, which is here spread out in all its beauty and grandeur, and his delight at the discovery of the long-sought-for object, is well delineated in his features and attitude by the artist. His army consisted of three hundred mounted men, and a considerable amount of infantry. They were well equipped, as all Spanish armies at that period were. De Soto's imagination had been inflamed by the descriptions of the river which he had heard from the savages of the forest whom he had encountered; and he pressed on by means of Indian guides, overcoming many obstacles that would have deterred a less daring spirtt. The forests were to be hewn down for his cannon and cavalry, and the Indians had to be fought at every step. Besides, he was in a foreign country, a vast wilderness, of what extent he knew not, and, as he had already ascertained, surrounded by many dangers.

The picture may be divided into four groups. The principals group represents De Soto, mounted on a magnificent white horse at the head of his suite of officers, servants and standard-bearers, and followed by his cavalry, which grow indistinct in the shades of the forest in the distance. The principal feature in this group, of course, is the commander-in-chief, Proudly erect upon his noble steed, the white plumes of his office as Governor of Cuba shading his brow; blazing with the splendid armor of a Spanish noble of the sixteenth century; the yellow banneret of Spain, and the two headed eagle of Austria waving their rich folds over his head, he seems conscious of the dignity of his great mission, which is to take possession of this inland sea and fertile country in the name of European civilization.

The second group in advance of De Soto, and immediately on the bank of the river is a group of native Indians, into whose camp he has just arrived, The third group is formed of some missionaries and soldiers belonging to the army, who are planting a cross as a memento to mark the spot, while the fourth group is composed of a company of men who are preparing to fire a cannon in commemoration of the event.

The group of savages is composed of the chief and his two tall sons, who are coming forward to offer to the white man, the first they had ever seen, the pipe of peace. Tho old chief stands nearly bent double between his two sons, and holds out the pipe with an expression in his countenance of mingled fear and astonishment. One of the sons looks at the gay plumage, singular costumes and numerous appliances of war of the new comers with evident admiration; while the other has drawn himself proudly up, with an expression of disdain and daring in his countenance which clearly proves what would be his solution of the difficulty, if he had the power. In front of the chief several naked squaws are seen kneeling offering presents of game and corn to their conquerers, hoping thus to conciliate their favor.

Whilst the Indians are presenting their peace offerings, and endeavoring to gain the attention and good will of their visitors, De Soto deigns not to cast a glance at the group in front of him, but with his eyes directed over their heads to the grandeur of the scene that is spread out before him, to the majestic river, dotted with islands, and to the far sweep of country that extends beyond, one can imagine he sees in the glowing countenance and the sparkling eye, the mind of the discoverer carried forward to the realization of that future greatness in population and civilization which is now no longer a matter of imagination. The contemplative, serious delight of the chief is well contrasted by the waving of hats and the laughing shouts of delight of his followers."

Mr. Powell receives from Government $10,000, for this splendid picture, and so arduous has been the work that this sum has proved inadequate. He is permitted to exhibit the painting for his personal benefit for a limited season.

W. D. B.

EXTRACTS AND REPLIES.

CONCRETE BUILDINGS.

MR. EDITOR:—I saw an article in your paper for the building of houses with lime and gravel. I wish you would just give me through your paper the manner in which they do it, cost, &c., as nigh as you can ascertain. If you will do so, you will confer a favor on A SUBSCRIBER.

Warwick, 1854.

REMARKS.—Will some correspondent who possesses the information reply to the above?

REMEDY FOR BLEEDING AT THE NOSE.

Take good *dried beef*, grate it fine and press the cavity of the nose full of it, allowing it to remain until it comes away of itself. It may be a little oppressive, but is a certain remedy. This is the experience of Dr. J. N. KNAPP, of Dummerston, Vt., who has been in the successful practice of medicine, since 1814. He has stopped the flow of blood in several instances where the patient has been reduced to a helpless condition, and in two cases where the patient has become delirious and was determined to be left to die. Direct force was used, and the patient recovered.

Randolph, Vt. GEO. F. NUTTING.

BEST FOOD FOR MILCH COWS---PLASTER.

MR. EDITOR:—I have been a constant reader of the *Farmer* for years, and I wish now to make some inquiries through its columns. I make milk for the Worcester market. I wish to inquire what is the best and cheapest feed for cows that give milk, and what will make the most milk for the same money, and also how to feed them? (*a.*)

Is it beneficial to sow plaster at this season of the year on winter rye and on pastures? (*b.*)

Worcester, Nov. 6, 1854. WORCESTER.

REMARKS.—(*a.*) The questions under this head can only be answered in a general way without long and exact experiments. The "best and cheapest" food for milch cows which we have ever found, was good corn fodder, clover and herd's-grass hay, and half a bushel, or three pecks of roots,—say, beets, parsnips, carrots, flat turnips and ruta bagas,—per day, for each cow, fed to them in the morning soon after they were milked. Under this treatment this gave more milk than under any other, and we found it the cheapest. Good corn fodder will produce milk abundantly.

(*b.*) The autumn is a good time to sow plaster.

THE BLACKSMITH.

BY B. ROBERTS.

O, a mighty man is the blacksmith,
With his sinewy arm and strong;
And as the world have termed him *wright*,
We will not *write* him wrong.

He'd blow and strike, and hammer and pound,
Though a man of peace is he;
He's often given to *forging*,
But never to *forgery*.

He'll screw and twist, and wrench and turn,
Though honest in his dealing;
And while he often *takes the steel*,
He never *takes to stealing*.

His *stock* is seldom less than par,
And often takes a rise;
No matter what his *virtues* are,
He's much to do with *vise*.

His *temper* it is always good,
Though *hard things* form his lot;
He's often in a "melting mood,"
And strikes while the iron's hot.

He sometimes sways an *iron rod*,
Although a foe to *tyranny*;
His *figures* are not those of speech,
Though oft he uses *irony*.

And ere his great work is complete,
And he shall close his books,
Our swords he'll into plowshares beat,
Our spears to pruning-hooks.

Rural New-Yorker.

CALIFORNIA AGRICULTURAL PREMIUMS.

Farming in California is becoming a business of some consequence. We see by the *California Farmer*—quite a smart paper for the new State—that a great Cattle Show was to come off the 4th of October and following days. The State awards the Agricultural Society *five thousand dollars* annually for years, to be given as premiums. The premiums are decidedly worth getting. Among others, for the best farm, $200; second best, $175. The premium for the best flower garden, ($40) is a new idea this way. There is offered a prize of fifteen dollars for the best twenty-five ears of seed corn; best fifty pounds of butter, fifty dollars; best quart of cranberries, ten dollars; best evergreen wreath, twenty dollars. For the best six pumpkins, (probably proposed by a New Englander,) ten dollars.

Premiums are offered with great liberality for farm vehicles, (why not here!) This is a good one: For the best cart horse, to be shown in cart, twenty dollars.

The most important "live stock" premium proposed was one of one hundred dollars for the "finest baby under one year old." Just at the last moment, the executive committee thought it wouldn't hardly do and withdrew it. Their prudence will save unnecessary crying.

Concord, 1854. W. D. B.

☞ The *Tippecanoe Farmer* is the name of a new agricultural paper published at *Lafayette, Indiana*. It is well printed, filled with instructive matter, and will undoubtedly do good service in the cause. Edited by A. J. WEAVER and JOHN LOVERING. Fifty cents a year.

TURNIPS AND SALT HAY.

We copy from the *Maine Farmer*, of October 9, 1854, a paper published under the editorial care of Dr. E. Holmes, at Augusta, the following correspondence, which, if we do not mistake, will be read with interest by many a farmer. We make no pretensions ourselves to a knowledge of *the growing of turnips*, or *the peculiar qualities of salt hay* so much of which springs spontaneously, without culture, all along our shores; but when the elements of these products are incorporated in the form of *a sirloin of beef*, with the streaks of fat and lean properly intermingled, (or to use the expressive phrase of Mr. Sprague, "well marbled") we yield to no one, of our inches, in the ability to do it justice. When we see names like those approving this experiment, gentlemen whose opinions are confirmed by the experiments of many years, we think we are safe in following their lead, and in endeavoring to lead others in like paths. There is more real utility, in one such experiment, well established, than in all the *fancy speculations* ever put forth, without confirmation by experiment.

GOOD USE OF TURNIPS AND SALT-HAY.

MR. EDITOR:—I forward for publication in your paper, a copy of a letter that I used in speaking to the farmers of York county, on the 5th inst., at Biddeford. It contains facts, in my opinion, worthy to be remembered. It is supported by the names of Webster and Sprague—as well entitled to credit in such matters as any I know.—Let any one pass from Boston to the Kennebec, and take a glance at the *salt marshes* by the way, and he will see abundant occasion to seek a valuable use for salt hay, and for the growing of turnips, in these days, when the potato has so generally failed, though I am happy to say that our potatoes the present season are much better than we had any reason to expect. Eight hundred bushels of turnips to the acre, can be raised as easily as two hundred bushels of potatoes, or as 50 bushels of corn, so far as my observation has extended. I was much pleased with the fine working oxen that I saw at Biddeford; while such animals can be reared on such farms, there can be little necessity of introducing animals from abroad, at *three times the cost* for which they can be reared.

J. W. PROCTOR.

Danvers, Mass., Oct. 7, 1854.

HON. J. W. PROCTOR,

Dear Sir:—In answer to your inquiries relative to my experience of the value of turnips and salt-hay, I can only say that notwithstanding I have raised from one to two thousand bushels of turnips, beets and carrots, and fed them to my cattle, horses and hogs for several years past, I have no data to estimate the real value, but from a single experiment I made at the suggestion of the late and lamented Daniel Webster.

Having purchased a number of young cattle from a drove from Maine, and finding a heifer not in calf, and a steer of ordinary quality, I thought I would try what turnips and salt-hay would do for them. They were both *two years old*; the heifer was thrifty and in fair condition for winter stock; the steer a mean animal, thin of flesh, badly built, a poor feeder, and such as most of our farmers in the vicinity would have thought more

likely to die than live, on such feed as I was about to confine him to. They were put into the stall the latter part of November, and fed on ruta baga turnips and salt hay. The heifer consumed nearly one bushel per day, the steer not much more than one half that quantity. At the end of four months I sold the heifer to the butcher. She opened well, but with not a large quantity of fat on the kidney, or of rough tallow, but the side was thick and well marbled, or mixed with fat and lean. The meat was juicy and well flavored, and much admired by all who saw or tasted it.—Being fearful the turnips or salt hay might give an unpleasant flavor to the meat, I gave her, for four or five days previous to her being slaughtered, English hay and a little Indian meal. With this exception she had not a mouthful of food of any kind but turnips and salt-hay. Water was offered them occasionally, but they drank but little. The steer was slaughtered shortly after; he was very decent beef, but no way comparing to the heifer. I was much pleased with the result Some very intelligent farmers will not believe that turnips possess any nutritive quality, and ridicule the idea that an ounce of fat can be made from them. And the opinion is equally strong against the fattening of hay from our salt marshes. This experiment does not show much profit, but it proves a fact of importance, especially to farmers, in the use of salt-hay; and they can raise turnips by their own labor, and thus fatten their cattle intended for the shambles, avoiding the payment of money for corn or other expensive feed.

Yours with respect,

SETH SPRAGUE.

Duxbury, Mass., Sept. 30, 1854.

For the New England Farmer.

CHEAP AND EXCELLENT CANDLES.

MR. HOLBROOK:—The following receipt I copied from a newspaper, some twelve months since. I have tried it twice, and find it all that it is cracked up to be. I have no doubt that it would have been worth more than $20 to me if I had known it twenty years ago. Most farmers have a surplus of stale fat and dirty grease, which can be made into *good candles* at a trifling expense.

I kept both tallow and lard candles through the last summer, the lard candles standing the heat best, and burning quite as well, and giving as good a light as the tallow ones. I have never seen it in the *New England Farmer;* perhaps it has been published there, notwithstanding.

I submit the following directions for making good candles from lard: For 12 lbs. of lard, take 1 lb. of saltpetre and 1 lb. of alum; mix them and pulverize them; dissolve the saltpetre and alum with a gill of boiling water; pour the compound into the lard before it is quite all melted; stir the whole until it boils; skim off what rises; let it simmer until the water is all boiled out, or till it ceases to throw off steam; pour off the lard as soon as it is done, and clean the boiler while it is hot. If the candles are to be run, you may commence immediately; if to be dipped, let the lard cool first to a cake, and then treat it as you would tallow. Respectfully yours,

ALANSON PARMELEE.

Wilmington, Vt., Nov. 11, 1854.

BRILLIANTS.

A POET'S EPITAPH.

Stop, mortal! here thy brother lies,
The poet of the poor;
His books were rivers, woods and skies,
The meadow and the moor;
His teachers were the torn heart's wail,
The tyrant and the slave,
The street, the factory, the jail,
The palace—and the grave!
Sin met thy brother everywhere!
And is thy brother blamed?
From passion, danger, doubt and care,
He no exemption claim'd.
The meanest thing, earth's feeblest worm,
He fear'd to scorn or hate;
But, honoring in a peasant's form
The equal of the great.
He bless'd the steward, whose wealth makes
The poor man's little more;
Yet loath'd the haughty wretch that takes
From plunder'd labor's store,
A hand to do, a head to plan,
A heart to feel and dare—
Tell man's worst foes, here lies the man
Who drew them as they are.

EBENEZER ELLIOT.

LUTHER TUCKER, ESQ.

J. AMBROSE WRIGHT, ESQ., Editor of the *Prairie Farmer*, published at Chicago, and one of our excellent agricultural publications, indulged himself during the past summer in some rambles, and has given graphic sketches of some of the men and things which he saw. We only regret that his intention of visiting Boston was interrupted, and we lost, what we should have gladly claimed, a share of his time.

Among other persons whom he mentions as engaged in the work of agricultural progress, is the gentleman whose name stands at the head of this article. He says:

"I have already mentioned that I met Luther Tucker at Albany. Mr. Tucker is I believe the oldest living publisher of Agricultural papers in the United States. Certain it is, that no man in this country, if anywhere else, has given to the world so many issues of this kind, of such uniform and enduring value. His old Genesee Farmer, published at Rochester, and of which he put forth, if I recollect right, some dozen volumes, was a paper of mark in its day, and has been the real parent of the whole Northern brood of similar name and purposes. Notwithstanding the great reputation of Judge Buel's Cultivator, that paper rose at once in value upon Mr. Tucker's connection with it; and to this day it has never had any rival, which one can from month to month turn over, and then put away to be bound up in his Library, with so uniform satisfaction. Mr. T. made his editorial beginning with a political paper, having been educated a printer. From this he published the Genesee Farmer; then the Albany Cultivator—still continued in connection with the Country Gentleman, which latter at this time is his real paper—the Cultivator being made up from its pages from month to month. In addition to these, The Horticulturist, edited by Mr. Downing, passed through seven volumes in his hands. It is as a publisher, as much, if not more,

than an as editor, that Mr. Tucker excels. In the uniform correctness and neatness of his publications, together with excellence of materials, no one has ever long come up beside him. It was our opinion when he started his "Country Gentleman" that he had made a mistake in his title. We *rather think* that to be now Mr. Tucker's opinion also; though it is a popular paper, and is steadily growing in public favor. He was led to this title by Mr. Downing, whose idea it was, and whose esthetical preferences led him away from the masses of the people.

"Mr. Tucker is personally a man somewhat past middle life—say near 50 years of age—about five feet ten to six feet in stature; of spare, temperate and correct habit, and of decidedly nervous temperament. He still labors day by day, at his editorial desk, where he is now aided by a son, late from the halls of old Yale, and to whom are now committed the Fireside pages of the "Country Gentleman." J. J. Thomas, who has the care of the Horticultural Department, resides at Macedon."

ICE HOUSES.

Ice is no longer considered an article of luxury, merely, but one of healthful economy; it is cheaply and easily stored and preserved when the right methods are pursued, and to those who make it a matter of merchandize, one of considerable profit. The letter below will speak for itself.

Mr. Editor:—The ice house that I built three years since, keeps ice the entire year. It stands on the north side of my wood shed, and is made by setting a frame about ten feet square into the ground, a plank set up on the outside, and dirt thrown in to hold them up to the frame. The bottom is covered with a lower floor, the sides and roof made of rough boards, the sides being open as a common barn, with a covering of straw on the ice. Most of the ice houses in this vicinity are made too close, which causes the ice to melt; the air should have free circulation through the building. I think the plan much better and cheaper than to build them above ground; mine cost about ten dollars.

Respectfully yours,

C. S. Hamilton.

Hartford, Ct., Nov. 21, 1854.

Mr. E. Marks, in a late number of the *Rural New-Yorker*, gives the following directions for making a small ice house, which is pretty much on the same plan as the above, though perhaps not so durable.

"Make a box eight feet square, by nailing hemlock planks which are two inches thick, on to hemlock scantling. Let one side of the box be seven feet high, and the side directly opposite ten feet high. This gives a roof eight feet long with a slant of three feet.

"It is well to have the roof boards extend over the sides of the box. Double boarding with hemlock makes a sufficient roof. Set this box on the top of the ground, in a dry and shady place, where surface water will not accumulate. No planks are needed on the bottom of the box, but sawdust must be placed on the ground inside the box, to the depth of one foot, and over this place loose boards for the ice to lay upon. Cut the cakes of ice two feet square, and build a tower of ice six feet square in the centre of your box, (or ice-house, we will now call it,) by laying the cakes compactly together, filling all crevices with sawdust as you proceed. We have now a cube of ice, with a space all around, between the ice and the planks. Fill this space with sawdust, and cover the top of the ice with the same, eighteen inches deep, and you have ice enough secured to last a family through the season. The upper three feet of the side which is ten feet high should not be boarded up, but left for ventilation, and a place of access to the ice, and this aperture may be enlarged as convenience may require, while using the ice, and for more conveniently filling in. About eight hundred feet of lumber will be required, and the merest tyro in the use of tools can make it. Fresh sawdust is best, but it may be used a second winter. The dust can easily be washed from the ice at the time of using."

JOHN RANDOLPH.

He was one of the large slaveholders of Virginia, but disliked the institution, and when let alone opposed its exertion. Thus in 1803, when as chairman of the committee which reported upon the Indiana memorial for a temporary dispensation from the anti-slavery part of the ordinance of 1787, he puts the question upon a statesman's ground; and reports against it, in a brief and comprehensive argument:

"That the rapid population of the State of Ohio sufficiently evinces, in the opinion of your committee, that the labor of the slave is not necessary to promote the growth and settlement of colonies in that region. That this labor, demonstrably the dearest of any, can only be employed to advantage in the cultivation of products more valuable than any known to that quarter of the United States; and the committee deem it highly dangerous and inexpedient to impair a provision wisely calculated to promote the happiness and prosperity of the north-western country, and to give strength and security to that extensive frontier. In the salutary operation of this sagacious and benevolent restraint, it is believed that the inhabitants of Indiana will, at no very distant day, find ample remuneration for a temporary privation of labor and emigration."

He was against slavery; and by his will, both manumitted and provided for hundreds which he held. But he was against foreign interference with his rights, his feelings, or his duties; and never failed to resent and rebuke such interference. Thus he was one of the most zealous opposers of the proposed Missouri restriction; and even voted against the divisional line of "thirty-six thirty." In the House when the term "slaveholder" would be reproachfully used, he would assume it, and refer to a member not in the parlimentary phrase of colleague, but in the complimentary title of "my fellow-slaveholder." And, in London, when the consignees of his tobacco, and the slave factors of his father, urged him to liberate his slaves, he quieted their intrusive philanthropy on the spot, by saying, "Yes: you buy and set free to the amount of the money you have

received from my father and his estate for these slaves and I will set free an equal number."

In his youth and later age, he fought duels: in his middle life he was against them; and for a while, would neither give nor receive a challenge. He was under religious convictions to the contrary, but finally yielded (as he believed) to an argument of his own, that a duel is a private war, and rested upon the same basis as public war; and that both were allowable when there was no other redress for injuries. That was his argument; but I thought his relapse came more from feeling than reason; and especially from the death of Decatur, to whom he was greatly attached, and whose duel with Barron, long and greatly excited him. He had religious impressions, and a vein of piety which showed itself more in private than in external observances.—He was habitual in his reverential regard for the divinity of our religion; and one of his beautiful expressions was that, "If woman has lost us paradise, she has gained us heaven." The Bible and Shakespeare were, in his later years, his constant companions—travelling with him on the road—remaining with him in the chamber. The last time I saw him (in that last visit to Washington, after his return from the Russian mission, and when he was in the full view of death,) I heard him read the chapter in the Revelations (of the opening of the seals,) with such power and beauty of voice and delivery, and such depth of pathos, that I felt as if I had never heard the chapter read before. When he had got to the end of the opening of the sixth seal, he stopped the reading, laid the book open at the place on his breast, as he lay on his bed, and began a discourse upon the beauty and sublimity of the Scriptural writings, compared to which he considered all human composition vain and empty. Going over the images presented by the opening of the seals, he averred that their divinity was in their sublimity—that no human power could take the same images, and inspire the awe and terror, and sink ourselves into such nothingness in the presence of the "wrath of the Lamb" that he wanted no proof of their divine origin but the sublime feelings which they inspire.—*Benton's Thirty Years.*

HOW LONG IT TAKES TO GET APPLES.

Mr. BUCKMINSTER, Editor of the *Ploughman*, in a recent editorial says—

"We have three hundred trees set, *two years ago*, in our orchard in Framingham. Some of these (the Baldwins) bear fruit this year. One has borne thirty-seven good apples. People may preach about waiting 20 or 30 years for a young orchard to come to bearing—and they must wait if they procure good-for-nothing trees and set them in a good-for-nothing soil. But why not give young trees a chance to grow?"

The trees spoken of above, are very handsome, and promising, and we think an examination of them would satisfy a person about to plant an orchard that trees of three or four years of age, handsomely headed in the nursery, would prove the most profitable, although costing something more than younger and smaller ones at first.

For the New England Farmer.

AGRICULTURAL IMPLEMENTS.

REPORTED TO THE CONCORD FARMERS' CLUB, BY JOHN RAYNOLDS.

Agriculture, being the mother of the arts, and the chief reliance of civilized man for the means of subsistence, and its operations having been, in a great degree, dependent upon the application of muscular strength, it has *naturally* followed that man's inventive genius has been more or less engaged, during the last half century, in the improvement of machinery, and all the implements of farm husbandry.

In our country this spirit of improvement, this constant striving for something better, has perhaps been more apparent than in any other part of the world, and has been attended with better and happier results. One of the evidences of this is, that during the last year *one hundred and fourteen* patents have been granted for agricultural implements, twenty-seven of which were for harvesters, power reapers, mowers, &c.

Agricultural organizations and cattle shows serve to awaken the attention of farmers to the *necessity* of employing all the aids which mechanical skill and invention can supply, and thereby increases the demand for that skill; and every aid which the latter can contribute to the success or prosperity of the farmer, is so much contributed to its own.

I believe it is now generally conceded, by most good farmers, that horse power and labor-saving machines may be introduced with advantage and profit. The farmer and agricultural implement maker are mutually bound together by the strongest ties of interest, and the same stimulus which promotes the advancement of the one, operates equally to the advantage of the other. It is this stimulus which has brought to so high a state of perfection the various kinds of machinery and implements now employed on the farm.

The *plow* is the *most* important implement used on the farm, and great improvements have been made in this article within a few years, especially in the draft, and in its adaptation to subsoiling. The *double*, or sod and subsoil plow, as it is called, I consider one of the best implements now in use, and I think that *any* farmer who has witnessed its operation, cannot but be convinced of its great utility and importance.

Another indispensable implement upon the farm, and one of *great* utility, is the *harrow*. This naturally follows the plow, and perhaps ranks the second in importance. There are many forms of this implement. Having occasion to purchase one recently for my own use, I have examined somewhat carefully their various merits, and have come to the conclusion that there are none in use better than the square and improved hinge harrows.

The roller I consider a very valuable article, especially on light soils. Among the advantages to be derived from its use are, that on sowing down to grass, it smoothes the land by forcing sods and small stones into the soft ground, pulverizes the lumps of earth, and, by pressing the light, loose soil around the seeds sowed, they will be more likely to germinate; by making the earth compact, also, at the surface, *insects* will be in a measure deprived of their shelter. Rollers are

constructed of both wood and iron, and are made in from one to six sections. For common use, I should select one made of wood, with *two* sections of about two and a half feet each, and about three feet in diameter.

The *horse rake*, in its various forms, has proved itself of great service. With a good mowing machine and a good horse-rake, it would seem that the laborious task of haying might be converted into a pleasant amusement.

There are many other implements which have been recently introduced, and which promise to be valuable aids to the farmer. Among these are the reaper, horse-drill, horse-hoe, &c.

Valuable improvements have also been made in many of the smaller and more common implements, such as shovels, forks, hoes, &c. It is probably safe to say that double the amount of labor can be performed, in a given time, with such tools as we now have at command, than with those used in by-gone days.

The whole subject of farm implements, in all its various bearings upon the labors of the farm, is, or should be, one of much interest to every farmer. No *farmer* or *mechanic* can perform a good piece of work without good tools, therefore parsimony in this matter is bad economy.

In no way can a farmer contribute more to his pleasure, comfort, or success, than by a liberal and judicious expenditure for implements.

WHAT WILL MAKE A COW GIVE DOWN HER MILK?

The inquiry in the *American Agriculturist*, "What will make a cow give down her milk?" reminded me of an incident in my own experience.

We have a fine cow, which goes by the name of Whitey, on account of her color. She gives a large quantity of milk, and of superior quality. Her only fault is, that she is rather too intelligent, and knows too well how to look out for her own interests. She is evidently in favor of bovine rights, and has no idea of submitting, against her judgment, to the control of man and woman. She can let down the bars of the pasture very nicely, if there are no precautions taken to prevent it; and if the fence is not "legal," she does not consider it worthy her regard. She understands the mysteries of latches and hooks; and, if she has a calf to look after, she knows very well how to retain a sufficient portion of her milk for its nourishment.

Bridget had been with us several weeks, and I had always given her particular instruction to treat the cow gently, and never strike her. One day she came to me, and told me that Whitey would not give down her milk. She had tried for some time, and could not get a "sup." I had known the cow so long, that I had learned if she was coaxed with a bucket of delicacies, she would for a time forget her calf, and not refuse to yield her milk

> "Unto the milkmaid's hand; while in regular cadence
> Into the sounding pail the foaming streamlets descended."

So I told Bridget if she would "slop" the cow, she would have no difficulty. She went out, and pretty soon came in again.

"How have you succeeded this time?" I inquired, expecting her to show a pail of foaming milk.

"Oh, ma'am," she answered, dolorously, "I slopped her all about the barn-yard, and could get nary a drop."

"Slopped her about the barn-yard! What does she mean?" I said to myself. I inquired into the matter, and found she had been "bating" the cow.

"Why did you do that?" I asked. "I have often told you never to strike her."

"But you said, ma'am, if I would slop her, she would give down her milk."

So poor Whitey had a beating, and Bridget had no milk, because I had used an expression which I had frequently heard, but which she entirely misunderstood. If I had told her to give the cow a "mash," she would probably have known what I meant.

After suitable explanations, Bridget tried a third time, and with much better success. She prepared some food which the cow liked, and as Mooly was not slapped, she stood still, and gave down her milk, Bridget wisely concluding that the way to a cow's heart, as to a child's, is through the mouth.—*American Agriculturist.*

THE CITY OF SEBASTOPOL.

The best description, which we have seen, of the defence of the city and port of Sebastopol, is one given by Mr. Scott, a late English traveller, who gives the results of his own observation.—The port consists of a bay, running in a south easterly direction, four miles in depth, a mile wide at the entrance, and narrowing to a quarter of a mile at the end, where a small river enters it. It has an average depth of water of about eight fathoms; the bottom being of mud in the centre, and of gravel at the sides. The military harbor, where the Black Sea fleet is moored in winter, and where the largest ships may lie with all their store on board, close to the quays, is a mile and a half long, and a quarter of a mile wide. It is land locked on every side. On the east side, near the entrance, are the naval arsenals and docks. There are besides the commercial and the careening harbors, and outside the entrance is the quarantine harbor.

The port is defended on the south side by six principal batteries and fortresses, mounting from 50 to 190 guns each; and on the north by four with 18 to 120 guns each; and there are many small batteries in addition. The fortresses are built on the casement principle. Three of them have three tiers of guns, and a fourth two tiers. The largest, Fort Nicholas, mounts about 190 guns. Mr. Scott by great interest obtained permission to enter this port. He counted 186 guns. It is built like all other forts, of white limestone; a fine sound stone, which hardens by exposure to the air, and is very durable. Between every two casements are furnaces for heating shot red hot. Mr. Scott measured the calibre of the guns and found it to be eight inches, capable of throwing shells, or 8 lb. solid shot. We could not say whetner all the guns in the fortress were of the same size but it was his belief that most of the fortifications were heavily armed.

At the time of his visit, there were not more than 850 pieces of artillery defending the fort to-

ward the sea, and of these about 350 could be concentrated on a ship entering the bay. The position is admirably adapted by nature for strength towards the sea, and it has been fully taken advantage of to make it one of the strongest that can be imagined. The work, however, of the consummated fortresses, he says, is badly constructed,—the work being carried on under a Russian engineer, whose object was to make as much money as possible, and the walls are filled in with rubbish. This is said to have been the case with the principal fortress at Bomarsund, yet it is difficult to imagine that so costly and important works as those at Sebastopol can have been In general constructed in such a manner, though we doubt not the Russian, as well as most other governments, has been defrauded to a great extent in this manner.

Mr. Scott remarks also that the fortresses were found defective in ventilation, to remedy which, some alterations were subsequently made, but admitting all these defects, he adds, they are still strong enough to inflict some amount of injury on an attacking fleet before their guns could be silenced; and in addition to these pieces, which now may number 950, there are 500 guns of large calibre in strong open batteries, half of them throwing shell and red hot shot, independently of mortars. If these forts can be silenced by the allied fleets alone, without land forces (these remarks having been written before an attack by land was contemplated,) it would be satisfactory to know, he remarks, what amount of resistance Portsmouth could make with her 70 or 80 guns, not more than five and twenty of which are heavier than 32-pounders.

BRACKETTED COTTAGE, WITH VERANDA.

The design here given, and the accompanying description, we copy from "*Downing's Country Houses*," believing that they will prove acceptable to many who would be glad to build if a proper design were presented them, one coming within moderate means, and combining convenience with something of elegance and taste. It may cost no more to combine these qualities than to build without them. He says:—

"A pleasing, symmetrical form, some picturesqueness of roof, united to considerable simplicity of construction, and an expression of more domestic enjoyment than cottages of this size usually exhibit, are the characteristics of this design.

"The larger expression of domestic enjoyment is conveyed in the veranda or piazza. In a cool climate, like that of England, the veranda is a feature of little importance. But over almost the whole extent of the United States, a veranda is a positive luxury in all the warmer part of the year, since in midsummer it is the resting-place, lounging spot, and place of resort, of the whole family, at certain hours of the day. It is not, however, an absolute necessity, like a kitchen or a bed-room, and, therefore the smallest cottages, or those dwellings in which economy and utility are the leading considerations, are constructed without verandas. But the moment the dwelling rises so far in dignity above the merely useful as to employ any considerable feature not entirely intended for use, then the veranda should find its place. To decorate a cottage highly, which has no veranda-like feature, is, in this climate, as unphilosophical and false in taste, as it would be to paint a log-hut, or gild the rafters of a barn.

"ACCOMMODATION. The interior of this cottage, gives a neat and pretty parlor, of 14 by 20 feet; the principle is to get as large an amount of convenience and comfort in every-day-life as possible, and leave the rest to take a secondary rank.

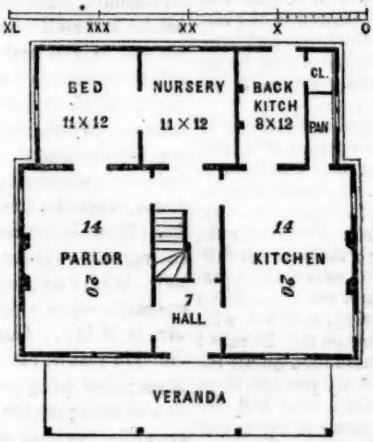
"Hence, the kitchen, bed-room, nursery, and back-kitchen, the scene of a good deal of the dai-

ly life of the mistress of this cottage, are all on the first floor, and all close together. The last three of these are economically obtained by putting them in a one story *wing* added to the rear of the cottage; and though the rooms thus afforded are not large, yet they are large enough when they are to be kept in order with very little "help."

"The kitchen, in this plan is properly the living and eating room of the family, and in order that it may always be kept neatly, there is a small back kitchen adjoining, with its separate flue for a small range or cooking stove, so that all the rougher work can be done there, which makes the larger kitchen, usually, a pleasant family dining-room.

"There is a partition across the hall, just by the stairs, which is intended to serve as the extreme limits of nursery excursions, on all occasions when decorum in the parlor is the order of the day. The door here, as well as the front door, should have the two uppermost panels glazed, so as to light both parts of the hall when they are closed.

"*Estimate.* The estimated cost of this cottage, well-finished, is $1278." This, of course, would vary in different locations, and would be higher now than for several years past.



GROUND PLAN OF BRACKETTED COTTAGE WITH VERANDA.

NO COMFORTS---THE SECRET.

A few days since we were in one of our lower valleys, and while in conversation with a few cultivators and their families, we heard continually of the poverty of those who were engaged in farming. All manner of complaints came from the families of their want of the ordinary comforts of life. One good and industrious wife remarked that she would like to live here if she could have those necessary comforts that make life desirable; she did not like to live as she did. Her husband was always complaining of hard times and of scarcity of money, that he could not get along, and that he would never get enough to go home with. For her part she did not like to live so. They had plenty of land and grain, cattle and horses; but she had no garden, no wash-house, no wood-shed, no hens or chickens, no cow; in fact she had but little or none of the comforts she thought ought to be had around a place where one lived. Upon an inquiry of the farmer how *he* was getting along—"well, he was trying hard to get enough to take him back again; he had not done much this year, he had only made about *five thousand dollars*."

Here is the secret; a class of men who are farming to make money, living to make money, not making it to live; and while they are doing well they deprive their families of the ordinary means and comforts of life, filching the treasures of earth to carry away. They feel no interest in what relates to a home here, but are continually unsatisfied themselves and making others so, unless they can hoard up gold.

We believe this class of farmers are the *incumbus* upon the soil, and the quicker all get rid of them the better; and we believe the present embarrassments that rest upon the interests of Agriculture result from this very class of men. What California wants, in and among Agricultural districts, is homes, where the chief aim shall be to render that home as attractive as possible, and where the entire income of a farm shall be devoted to its improvement and increased productions, and to placing, in and around that home, those comforts and blessings that shall give it such attractions that there shall never be a spirit of complaint or murmuring, but one continued hymn of rejoicing and thankfulness for the "abundance which the earth giveth."

When such a spirit prevails it will be emanations from an enlightened body of men, who will then understand their own employment, and understanding it, they will avoid the mistakes which the present heterogeneous mass now make, whose only aim is to make money—home or no home—which must ever result in ruin to themselves and all connected with them.—*California Farmer.*

☞ At the close of the current year, it is stated, the treasury of the State of Missouri will have on hand the handsome surplus sum of $400,000.

For the New England Farmer.

FALL PLOWING AND THE CUT-WORM.

MR. EDITOR:—I see, by one of your late papers, that there is some little discussion on the subject of fall plowing, and being in favor of it, I propose to speak of at least one very good reason why it should be practised. I allude to the destruction of insects in general, but to the destruction of the cut-worm in particular. The farm I live on is the one which my father occupied for more than forty years; it is of a light, sandy loam mostly, and during his life the cut-worm was very troublesome, sometimes destroying whole crops in spite of all his efforts, (and they were not small,) but he never plowed in the fall. Since I came in possession of the farm, and practised fall plowing, I have never lost a crop by the worms, or been troubled, to any extent, if the plowing was done late.

I will give one instance, where a small part of a field was left unplowed on account of winter setting in while I was about it. The land of which I speak was all under the same cultivation; the part plowed in the fall made 24 rows, 16 rods long, and 10 rows from 16 to 10 rods, equal to one row 514 rods long; the part not fall-plowed was 8 rows, from 3 to 6 rods long, equal to 36 rods of one row. The land was plowed and manured all alike in the spring, and set with tomatoes at the same time, and on the 36 rods I lost more plants during the season than on all the rest of the 514 rods. It was my practice to go over the ground every morning, and kill the worms, and reset all missing plants at night, and I kept an account of the whole transaction at the time, but it is several years since, and I have forgotten the exact number. I have been particular in making the account of the rows, as I have had tomatoes on the same land this year, and make my calculations by the rows the present year.

Yours, &c., B. F. CUTTER.

Pelham, N. H., Nov. 27, 1854.

ORGANIC AND INORGANIC MATTER.

Farmers frequently remark that they do not comprehend the precise meaning of the terms "Organic" and "Inorganic," as applied in agriculture. They are at a loss where to apply the proper distinction which they suppose ought to be observed in judging of the two forms as they occur in nature.

All living animals and plants, and their carcases, when the vitalizing principle of life has left them, are composed of organic or organized matter. These are readily distinguishable from inorganic matter by a structure visible to the eye, as observable in the fibres of hemp and flax—the porous structure of wood and flesh, and the more complicated texture of hide and hair.

Rocks and soils—the waters of lakes and oceans—all things, in short, that do not live, which neither are nor have been the medium of vitality, are to be included under the general division of inorganic matter. Plants and animals of whatever description, are composed mainly of the four principal elements—carbon, oxygen, nitrogen and hydrogen. When either amimal or vegetable matter is burned, it loses its texture and disappears, leaving behind only a slight residuum of ash.

The substances above named, being derived from the atmosphere, are released, and are termed organic elements, or constituents. All the multifarious forms and mutations observable in the animal and vegetable kingdoms, are attributable to the chemical combinations, through the operation of the vital principle, of these primary elements.

Vegetable oil and starch, sugar and animal fat, are, by fire, resolved into their original elements—carbon, oxygen and hydrogen. These, with all substances of a similar nature, or character, are the result of, and derived wholly from organized matter. Wood, burned in the open air, has its organic constituents dissipated; the inorganic particles only remaining. In the ashes may be detected magnesia, lime, silex, potash, oxide of iron, &c. These latter constitute the inorganic parts of the vegetable system, and are derived from the soil. It may be proper here to observe, that there are many organic substances in which no structure is visible. Gum, sugar and starch, are all found in plants, and yet are deficient in pores and fibres; but being produced by the natural operation of living organs, are included, with propriety, under the head of organic matter.

It would be well for our farmers if they could analyze their crops and soils on which they are produced. Few, however, are competent to do this, and much therefore, remains enigmatical and unexplained. But as time advances, and science diffuses light over the earth, these mysteries will gradually pass away; and the farmer will then discover that when he gathers in the rich fruits of his industry in the fall, he collects together a portion of what was his soil at seed time. In his wheat he will detect lime, flint, and a portion of clay. His Indian corn, a crop in which he justly glories, contains also the same materials though differently modified in combination, and so do most of the grains he cultivates. All vegetables must have a certain proportion of mineral matter to perfect them; and it it consequently important that he should understand how he can best supply them by animal manures, or mineral applications where there is a deficiency of power to supply them in the soil itself. Animal manures contain these mineral ingredients in a soluble state, and consequently in a condition the most perfectly adapted for immediate appropriation. No particle of matter can enter into, or be assimilated by the vegetable organism, until its texture has been broken and modified by the solvent action of water.

Thus, it will be seen that there is an intimate relationship, and constant interchange between

the animal, vegetable, and mineral kingdoms, and the more perfectly we comprehend the laws of this union, and the phenomena to which it gives rise, the better shall we be prepared to avail ourselves of the riches and emoluments which nature so prodigally holds forth as an encouragement to enlighten toil.

We should ever bear in mind the important fact that manures are endued with different degrees of energy, partly from their innate richness, and partly from the facility and promptness, with which they part with their fecundating particles to the soil, and to the roots of plants. These are given off only in solution, or in ærified bodies, (gas,) the first taking the name of liquid manure, which penetrates the soil and is absorbed by it to feed the roots of the crop, and the other as air, which, if not absorbed and fixed by some substance for which it possesses a strong affinity, will pass into the atmosphere and be lost. It will hence be seen that the art of manuring consists not so much in the liberality of your benefactions to the soil, as in the competency of the measures we adopt to prevent the escape of the soluble and gaseous products of the matters applied.

It has been estimated by a late writer, that more than one-half of all the active nutrimental matter formed by the consumption and decay of organic substances, is wholly lost in consequence of the imperfect habits of our farmers in applying them. This is, indeed, an important consideration, and no one who contemplates it philosophically, will find cause to question the verity of the remark above quoted.

For the New England Farmer.

GRAIN CROPS.

REPORTED TO THE CONCORD FARMERS' CLUB, BY JACOB B. FARMER.

For many years past, it has generally been thought that wheat could not be raised in New England; but this I believe to be an error. For the past two years I have tried the experiment, and have succeeded better than I expected to, raising twenty-eight bushels of fine wheat on about one and a half acres. This is a greater number of bushels than I have ever known to grow of rye, on the same ground, in any one year for the last forty years, it having been sown many times within that term. The soil is a very light, sandy loam, well adapted to the growth of rye. All the manure for the wheat consisted of two loads of meadow mud, two casks of lime, two casks of plaster and five or six bushels of hen manure, well mixed and sowed broadcast, and cultivated in with the wheat. I think it will not be amiss to state here that there was a part of the ground that had none of this compost on it, and it had next to no wheat on it too. I am satisfied, from the experiments that I made, that the ground on which it was sown was deficient of lime and plaster to a great extent; if these be the principal ingredients that are wanting, they are both cheap and easy to be obtained. At any rate, the crop is worthy of more attention than has hitherto been given it. The variety is what is termed "the blue stem winter wheat."

Rye is a crop that, as a general rule, has been treated very shabbily; but, as the straw has got to be so valuable now, it is considered worthy of better treatment. I believe there can be but little dependence placed on any soil (unless it contains considerable sand,) for a crop of rye, except what is usually termed burnt land. Now, whether the application of ashes to the soil would render the crop as certain on all lands as the burning of brush does on new land, or approximate near to it, is a question I cannot answer, but it may be worthy an experiment.

In regard to oats, I differ in two points from many people. The first is the quantity of seed to be sown per acre. I hold that two bushels per acre is enough for any land where there is grass-seed sown; if there is more than that quantity sown, the young grass is killed in about the same proportion to the extra quantity of seed sown, (without a corresponding increase of grain,) by the oats lodging, shading, and exhausting the soil of moisture. If the season is such that the young grass survives until harvest, and it is then any way warm and dry, it will then perish like dew before the sun. The other point on which I differ is the time of harvesting. My rule is to harvest when the oats have turned yellow about half way down the head; at that time they will not shell by cradling; the oats are brighter, and the straw is worth nearly double for stock; this rule will hold good, to a certain extent, both with wheat and rye.

As for barley, I never could raise a remunerating crop; whether from the want of knowledge in cultivation, or adaptation of the crop to the soil, is more than I can say.

On all these crops I would recommend, in all cases, more manure and better cultivation, and with these the cultivator will find a largely increased profit.

Concord, Nov., 1854.

ACCIDENT.—Between five and six o'clock Monday evening, a man who gave the name of Wilson, was found upon the track of the Boston and Worcester Railroad, near Auburn Dale, in a wounded condition, his nose being badly mangled, and the back part of his head severely cut. As the five o'clock Worcester train from Boston passed the West Newton crossing, a man was seen upon the top of the cars, and it is supposed that this was Wilson, and that he was knocked off by the bridge near Auburn Dale. He was taken into the house of Mr. Scribner and his wounds dressed. It is thought that he will recover.—*Traveller.*

☞ We learn from the *Concord Patriot* that the sum of $11,000 has been subscribed in that city towards the erection of a Unitarian church, in place of the structure recently consumed by fire.

A HOME IN THE COUNTRY.

We copy the following from the *Country Gentleman*. It contains so much sound, common sense, that we wish every business man of the city to read it:

Hundreds of good-hearted men are toiling severely in our large cities, wearing out their bodies and brains in the hopeless endeavor to acquire what is called "a fortune," upon the interest of which they may support their families and themselves in the decline of life. Their families are already expensive, and, amidst the vicissitudes of trade and business, how rarely is the wished-for happiness accomplished. It costs from $800 to $1,200 per year to support a family of five or six children, in genteel position, in a city, and it would require at least $20,000 of positive cash to do this without the aid of a business income. To support the family, then, and lay by enough to form a moderate fortune, within the number of years that a man may reasonably count upon being successful in business, is evidently a herculean task, as times go. I know many men, in a good business position, with $10,000 worth of stock on hand in their stores, a good credit, and very free bank accommodations, who cannot support their families in the manner described, for three years in succession, and find themselves $500 better off at the end of that period. They have first a good year, and make $1,500 or $2,000, and then a bad year, and lose two-thirds of former accumulations. And so it goes. They are absorbed in business, they find no time for study or relaxation, the mind becomes fallow, and the body loses its vital spirit, and disease and misanthropy follow.

Now, to such persons I wish to suggest a means of becoming *independent* in a very few years—that happy result which teazes and puzzles the brains of so many ambitious mortals. We will say that you are in successful business and can possibly save $500 per year, or some years at least. Do this, and get together $2,200; take $200 of this, or less, according to your age, and get an insurance upon your life for $5,000, for the benefit of your wife and children. Make it a perpetual insurance, so that your policy shall not run out, and the premium be raised; pay the first year down. Then look about you, and find a small farm, near the city where you reside, worth, say $4,000 or $5,000. Let it be on a river or railroad, easily accessible from town, in about an hour's ride, without a horse and carriage. Pay down $2,000 and give a mortgage for the balance; let the place be varied in the character of its soil, and as pleasant and attractive as possible; let there be plenty of good water, and a little stream if possible; a small pond, and a grove of shade trees and other natural advantages and natural beauties, if such can be found. If there are fruit trees, strawberry beds, &c., upon the place, so much the better; if not, let the cheapness of the land and its undeveloped natural advantages decide you; send your family to this place (provided, always, your wife takes a fancy to go); hire a gardener and farmer who understands his business, and pay him two-thirds the ordinary salary, with the addition of five per cent. of all the *cash* proceeds of the place he can obtain, by sending to market the produce of the place, in order to make him work and contrive how he can best and quickest make a fair salary. Keep horses, cows, hens, ducks, pigs; raise a great variety of vegetables; have an ice house, if you can get ice; and now let us see where you are. Are you not *independent?*

Milk, eggs, butter, and fresh, sweet vegetables are luxuries in town—and these you will have in abundance at the first cost of raising them, for you pay your farmer no five per cent. on these. Your family can have a horse and carriage to ride with—a luxury you seldom dare to indulge in when in town. Your house-rent is cheap, and if the farm does not *pay* in $400 per year, you still will have $400 or $500 left of your ordinary expenditures for living to lay by, or pay off the mortgage, or improve the farm. If you have no fruit on the farm, you may have plenty of it by planting trees, in three or four years; apples, pears, peaches, grapes, strawberries, raspberries, &c., enough to eat freely, and to sell to profit — Your family get fresh air, pure water, plenty of exercise, and live in a simple and unexpensive manner, free from many of the evils of a great city. You may combine with this the advantages of good schools, churches, and pleasant society; and may let your family go to town often enough to keep the city polish from wearing entirely off. As for yourself the pleasure of visiting your place two or three times a week, or oftener if convenient, and spending the Sabbath in the country, will more than repay you for the inconveniences of even a partial separation from your family, should that be necessary. You will have little trouble about the working of your place if you give your farmer a per centage on sales, for I have tried the plan and know how it works. Only remember this—get a good man, and one who thoroughly understands his business.

Now where are you? Are you not independent? If you die, and keep up the life insurance (which will cost you less than $100 per year), you will leave your family $5,000 in cash and the farm, to say nothing of your business. If you put all your fruit and best improvements on one side, or one-half of your farm, your heirs can sell off one-half the farm and pay the mortgage if it is not paid, and have the best half of the farm, and all the cash left. If you have no sons, and your wife is not skilled in business, that would be the better plan. Then, with a neat house and a good garden, plenty of fruit, a cow, a pig, poultry, a horse and carriage, and the income of $5,000, how comfortably the family could live, *at home*, as long as they should survive. And all this can be done for $2,000 to $2,200. There are a hundred other suggestions which rise to my mind, in connection with this subject, but I will not write them out now. They will occur to every reader.

Why, then, toiler in the city, wait till you acquire a fortune of $20,000 or $50,000 before you resolve to become independent and make your family so? Why not look out for a home in the country and make yourself independent, with $2,000, as soon as possible. I know of no other way that you can do it so easily and so certainly. It is a great deal better than going to California in search of gold.

SPIRIT OF THE AGRICULTURAL PRESS.

ON BEAUTIFYING THE FARM.

Never was truer thought uttered, than this of the *American Agriculturist*, that "*the time has fully come when our farms should cease to be regarded as mere manufactories of food and the raw material of clothing.*" It is commenting on an article in the November number of the *Horticulturist* upon "Parks and Pleasure Grounds for the Farmer," and says further,—"It is one of the great wants of our times that these farms should be turned into attractive Christian homes, where men and women shall not only work, eat, sleep and die, but where they shall enjoy life, as social and religious beings, and by loving and cultivating the good and the beautiful on earth, be fitted for the paradise of God. A man should no longer be considered a good citizen, who does not plant trees enough, and give time and money enough, to make his homestead so attractive that it shall retain some of his children to fill his place when he is gone. Multitudes of these old homesteads in the north are forsaken, mainly because there was nothing but the sternest utility about them, in the whole circle of the year."

Cannot those ingenious "statistical men," who tell us what the effect of occupation is upon the mind and duration of life, tell us, also, what the effect is of the *agreeable* and *beautiful* upon the temperament and longevity of the race? It is a common opinion that country life is largely conducive to health and happiness, and consequently to vigorous old age. But these cannot be imputed wholly to exercise in the open air, for many other classes enjoy the same opportunities, and fail to reach as many years as the farmer. Is it not fair, then, to suppose that the constant impression upon the mind of the wise and beneficent provision in the changes of the seasons, in their varied aspects, the ever-varying landscape, occasioned by heat and rain and frost, the wonderful instincts of animals, of birds, and insects, coming to the view of the farmer as they constantly do, have a healing and saving influence upon his mind? What orator ever forgot the inspirations he found in nature's grand cathedral, the forest, or the lessons in the stones or running brooks that were familiar to his youthful rambles? The mind becomes deeply imbued by the scenes familiar to it in early life. If those scenes represent violence and vice, the home and habits of bandits and freebooters, the crop of ideas which follow will be quite likely to partake of the character of those scenes. On the other hand, if the home of the farmer is surrounded by something of the tasteful and beautiful, in the way of lawns, groups of trees, shrubbery, and occasional paths, borders and flowers, kindred sentiments will be established in the minds of those mingling in such scenes, will grace and dignify the fireside, the pulpit, the bar, or Senate chamber in maturer life, and awake in others a higher appreciation of the beautiful.

There is a taste for the beautiful in every cultivated mind. The farmer shows it when he turns out his noble pair of Devons, or his Jersey heifers to the wondering gaze of his neighbors; or points out the graceful curves of his polished plowshare, or the exact lines of his recently-turned furrows. His wife and daughters manifest their taste of the beautiful in the neat lawn, 40 by 80 feet in front of the house, the groups of maples and birches, the shrubs and flowers, and the noble elm standing in the centre as the presiding genius of the whole. A few flowers in the window, a rose-bush under it, or the Ampelopsis or Bignonia over the porch attract and gladden the heart of the traveller, so that he goes on his way with kindly thoughts of his own, and of that home where he saw the evidences of a love for the beautiful. Then, where there is land enough, why not extend these ideas, and let them expand over several acres and call them a park, where the best sheep and cows and calves may graze,—and which will afford equal profit with any other acres on the farm,—where friends may visit, and children stroll and store up unnumbered ideas of the useful and the beautiful?

It may be urged that there is no call for the farmer to plant forest trees and form parks, either to please the eye or as a protection from sun and wind. But the objection would be without force in thousands of cases. A baleful "spirit of utility,"—a spirit without foresight or judgment, has swept away the finest forests in the land. The "Capotoline Hill" at Washington, was covered with noble and majestic oaks when Washington planned the city, and when the foundations of the Capitol were begun. But ruthless hands were laid upon them, and with blind fatuity, one after another, their towering heads were levelled in the dust, and now it will require a hundred years, together with a liberal portion of the treasure of the nation, to remedy the evil. So on most of our farms, the beautiful forest trees were all cut where the buildings were to be erected, and in their vicinity, leaving it open, bleak, and exposed to the full play of the elements; and this is the situation of thousands of our New England homesteads now. Is there not, then, good reason to introduce about these homesteads, something more of the useful and the beautiful combined.

THINNING FORESTS.

This subject is the natural corollary of the one just discussed. "A New Englander, near Claremont, N. H." has published in the *Germantown Telegraph* an article on the subject of thinning

forest trees, which we think ought to be placed on record, and give it below.

MR. FREAS:—The question is often asked, whether wood lots should be thinned? For my own part, I am now convinced, after no limited reflection and observation, that they should not. I have seen a growth of wood, natural growth I mean, greatly and irreparably injured by it: and I can see no reason why our grain and grass crops should not be sown thin, or thinned out by hand, as well as our woodland crops. The soil is generally found competent to support all that it puts forth, in the case of this class of vegetation, and the heaviest, tallest, and most majestic growth of wood and timber is always to be found in new countries where the axe and smoke of civilized man have never been known. There seems, indeed, to be something contaminating and stultifying in his very presence to the beautiful productions of the natural forest. I have spent many a happy and laborious winter in the dim old woods of Maine, which may well appropriate to itself the poetic appellation of

"Land of the forest and the rock,"

and along the timber-tenanted shores of the legended Songo and broad Sebago, where the tall pine, peering to heaven,

"Fit for the mast of some tall admiral,"

and the majestic oak, made the wilderness which had nourished them for centuries, tremble as they fell before the logger's glittering axe; and although I have seen the trees standing so compactly as to prohibit the passage of sleds, I have found that this closeness of growth was not, to all appearance, detrimental, but rather the reverse.

One thing impresses itself upon the mind of the beholder, as rather remarkable. I allude to the almost total absence of dead or decayed limbs on the trees constituting these vast primeval forests. When a tree has completed its period of growth, and lived perhaps for half a dozen centuries, it dies, decays and falls; but the younger and healthier trees are straight, sound in all their limbs, and furnished with a most beautiful profusion of foliage, and of the deepest green. I have frequently passed through clumps of spruce, occupying acres, and all the trees of more than medium size, where it was impossible to proceed more than a few yards in a right line, the denseness of the growth necessitating and literally compelling frequent divergencies to avoid the trees. Yet here had been no trimming or lopping—the growth was as nature produced it, sound and healthy, and to all appearances to remain so for, I have no doubt, hundreds of years to come. But as soon as man commences his presumptuous work of assisting nature in this department, she ceases, in a great measure, to assist herself; becomes diseased, with a morbid lassitude pervading all her system, and finally yields to the destroyer, whose kindness to her is death.

A NEW ENGLANDER.

Near Claremont, N. H., Nov. 22, 1854.

GRINDING MILLS.—An improvement in mills for grinding feed has been made by Amory Felton, of Troy, N. Y., which consists in the employment or use of a corrugated cylinder and a concave and cap having spiral flanches and reciprocating teeth. The grain to be ground is placed in a hopper above the corrugated cylinder, and is made to rotate, when the grain passes between the concave described and the cylinder, and is crushed between the spiral flanches of the concave and the corrugations on the cylinders, and is then discharged, ground, by an opening in the end of the concave. This mill is now in use, and grinds four bushels per hour by one horse power.

Scientific American.

For the New England Farmer.

MONTHLY FARMER FOR DECEMBER.

The title page and Index remind us that another volume is completed—another year gone. Years seem short as we grow old. When young, we hurry up time; when old, time hurries us. How slowly comes Twenty-one; how rapidly Forty-two! Yet, instead of growing dizzy or stupid as the "wheels of time fly swifter round," the better course is to "work, for the night cometh," and instead of surrendering at the first summons of old age, bravely reply, like good soldiers,—"Come, and take us." Is it not as much the duty of the old to preserve, as it is of the young to improve the mind? "Old men for counsel," is the dictate of prudence. The young and inexperienced need this, and they look to the pages of the *Farmer* for it. But they will not find it there, if old men, who naturally love quietude and repose, do not, like old Solomon, seek out and set in order, the proverbs of their experience. It is a common complaint that the sons of farmers are not satisfied with the business of their fathers. Is this strange? Think of the *models* that are placed before them. Plutarch's Lives! Any book of biography! Kings, Generals, Congressmen, Merchant Princes,—what "copies" these for the farmer's boy! "BIOGRAPHY OF AMERICAN FARMERS, Vol. 1." Although I have not yet seen the Prospectus of this work, I have seen in the *Farmer* of this year what I hope will prove to be the germs of such a production: sketch of the life of Richard Bagg, and of other friends of agriculture, and very brief notices of several men in connection with statements of their farms. Here, it strikes me, is a fine field for old farmers. You may not have marched an army over the burning sands of Africa, nor been Governor, nor made a fortune by trafficking with Indians or Chinese, but you have a good home, have raised up and educated a family, and therefore, must have done something;—what have you done? Shall not the word Biography or Autobiography, have a place in the index to the next volume of the *New England Farmer?*

"*Index to the Sixth Volume.*"—It is a laborious job to make out an index to such a volume as the twelve monthly numbers of the *Farmer* make.—And the person who made the one before us, probably feels that no one ought to find any fault with it. But he will allow me to suggest what, for my use, would be an improvement. I should prefer to have every thing that relates to a few of the leading subjects, placed under their respective heads, so that when investigating any particular subject, I should find in the index reference to every thing in the volume relating thereto. Taking "Manures," for instance, I would like to find under that word, every thing that is mentioned in

the volume as useful for this purpose. Looking at the references under this word in the Index, my first thought was that justice had not been done to the *Farmer*, as there are references to only nineteen pages, while the subject is discussed in nearer one hundred different places, all of which, it is true, may be in the index, but placed under so many heads, as to be liable to be overlooked, by one who has but a single evening to study manures. The objection to this system of classification, that it requires much repetition, is in my mind far outweighed by the fact of its convenience.

"*Notice.*"—Hereafter we are to have no advertisements in the *Farmer*, and it it to be stitched in a neat cover. Thank you, Mr. Publisher, for that; it will keep our numbers clean, inside and out, for the binder.

"*Maturing Plants.*"—Commencement of a reply to a criticism on an article with this heading that was published some time since in the *Farmer*. As there is quite a scientific "snap" to these articles, we shall read them carefully, and understand them if we can.

"*Is Farming Respectable?*"—Well, now, that is right to the "pint." If it is not respectable, old Massachusetts is a real know-nothing, for electing a farmer Lieut. Governor.

"*Guano.*"—Experiments in Orford, N. H., from which it is inferred that "those who covered or applied it while wet, received benefit; those who used it dry, had little."

"*Inquiry and Observation*," must excite in every reader a determination to look closer into the things about him, and to think deeper and more reverently.

But I must pass over the articles—"A Good Plow," "Agricultural Value of Railroads," "New System of Preserving Meat," a chapter on "Feeding Animals," "Wheat Trade" of England, and several others, to ask the attention of all concerned to the suggestions on "Fair Premiums." To award a premium on agricultural implements to the Railroad Company that transported them to the place of exhibition, would probably surprise everybody; yet what superior claim has the mere dealer in such articles?

"*Improved Windmills.*"—A few such dry summers as the last, will make a demand for windmills or some other pumping power.

"*Forest Trees.*"—Two articles on saving and sowing the seeds of forest trees.

"*United States Cattle Show.*"—Full account of proceedings and Premiums.

"Grass Land—Grass Seed," "What Boston has done for Agriculture," "Fall Plowing," "Gypsum," "Emery's Saw Mill," and "Best Method of Getting Corn and Hay" on wet land, bring us to an account of the wonderful effects of "Deep Plowing and Plastering" in Michigan. There is so great difference between the soil of Michigan and of Massachusetts, that an experiment in one State may be of little value as a guide in the other. I have seen herdsgrass growing rank and tall from the earth thrown up in digging a well in Michigan, while that grass grew but poorly, if at all, in the surface soil that would yield fifteen or twenty bushels of wheat per acre without manure. And plaster has an effect there very different from what it has here. Why and how it is I do not know, and therefore will not undertake to say.

Fruit.—Notice of fine apples from Canada. New mode of grafting suckers of Plum, with a recommendation of the Shad Bush as stocks for the pear. In the *Farmer* for May, 1853, is an article by Mr. Goodrich, of Burlington, Vt., which to my mind conclusively demonstrates the fact that the "whole family of thorns, mountain ash, and shadberry" are utterly worthless for pear-stocks. Has "Far East" read that article, and what Mr. Burt says to the same effect, page 204, same volume? How to manage "Cuttings of Fruit Trees." To manure "The Blackberry." Two articles on "Grapes." A READER.

Winchester, Dec., 1854.

IMPORTATION OF ENGLISH CATTLE INTO THE UNITED STATES.

The importations into the country have become quite frequent and important. A few years ago the taste ran in a different direction, and blood horses were all the go. Priam, Glencoe, Monarch, and horses of that stamp, were purchased in England at enormous prices—15,000 or 16,000 dollars being paid for a single animal; but a fondness for racing has diminished, not only in the Northern but also in Southern States, and the importation of well-bred cattle, sheep and hogs, has been pursued with more ardor. Whoever will compare our common native sheep with the improved breeds, will see at once an immense difference between them, and yet the care, attention and expense required to raise the former, is no more than for those of higher grade. One is an ornament to lawns, an object of interest; the other almost a disgrace to the poorest farms. The profit which attends the raising of higher breeds is far greater, and it ever increases the pleasure derived from farming to have the stock of a superior quality.

In a late celebration attended by breeders of fine sheep, it was stated that those from the United States were the purchasers in the English markets of the best animals. The influence of previous importations, and of those going on, must be extensively felt in the production of fine wool in the United States, and the manufacture of excellent woolen fabrics. The vast extent of grazing land we possess in the northern and middle States, makes the production of wool one of the most important objects of industry. The Southern States, except on a few of the mountains, are not suited for this business. The entire coast is flat and sandy, from Virginia to Texas, and from the shore to the mountain region, for the width of 100 to 200 miles. Over this extensive surface there is no pasturage for animals, which are fed on fodder and imported hay. The mountain region south of Virginia affords some pasturage, which enterprising citizens are engaged in devoting to the raising of sheep. They prefer breeds from Spain, owing to their supposed adaptedness to a warm climate. It was supposed that Illinois, which has a level lay of the land, was not suited to this purpose; but it was ascertained that sheep which had reached their growth in the Eastern States, advanced materially in size and weight from being introduced to rich pastures on the prairies. The wool became coarser, but it increased in quantity.

This important interest is now under full way

in most of the States which are adapted to the purpose, and it will make a great impression upon the prosperity of the country. It is, however, in the breed of fine cattle that we are likely most to excel. Gentlemen having country-seats have shown a laudable desire to import the best stock, on the principle that a few good animals, in a country where labor is dear, are better than numerous poor ones, and that animals of fine shape and color are objects of interest in their lawns. The county of Westchester, especially, has become eminent for its numerous and superior breeds of imported stock. Among the earliest importations into that county were some noble cattle from Holland. They were beautiful in shape, large, and good milkers. These have been crossed with the Durham, and a breed known as Dutch and Durham is scattered over the county. Old Mr. Bathgate, who lives there, and who has been engaged in this business for half a century, speaks of them as being among the best for milking. Stock of the Alderney, Ayrshire and Devon breeds, have been imported by other gentlemen; but importations of the Durham have been most numerous, and, where the pasturage is good, they are considered the best stock, not only for the dairy, but also for the shambles. Col. Morris, the president of the State Agricultural Society, who resides there, has been very active in the business of importing good stock into the country. His sales of cattle have attracted a great concourse of people, and large prices have been paid.

It would, no doubt, very much advance the interest which gentlemen feel in this subject, if annual sales were made of improved stock, at some convenient locality near the city, open for all sellers. They need some mode of disposing of choice animals which will attract competition, and enable them to dispose of their surplus stock without disadvantage. In England, the most useful of the nobility have for years been engaged in attempts to improve the breed of cattle, in which a degree of perfection has been reached that can hardly be excelled. They look upon fine stock as the best ornaments of their grounds. Many citizens of public spirit in the United States have imitated this excellent example, and conferred very great benefit upon the country by their intelligence and zeal in this service.—*N. Y. Jour. of Com.*

For the New England Farmer.

MACHINE FOR PEELING WILLOW.

MR. BROWN:—Those of your numerous readers who are engaged, or contemplate engaging in the cultivation of the *basket willow*, will be pleased to learn that there is a machine for peeling the willow. Mr. GEORGE F. COLBY, of Jamesville, Vt., the inventor, has had a machine made by which its merits have been fully tested; and all who have witnessed its operation, agree that it does the work to perfection and with the greatest facility, and believe it to be one of the greatest labor-saving machines of the age. This, I believe, is the first machine ever invented for the purpose, either in this or the old country, and must add vastly to the cultivation of the article in this country. Mr. C., who has been successfully engaged in the cultivation of the willow for several years, estimates the cost of peeling, in the ordinary way, at from $80 to $120 per acre, or at $40 per ton, while he claims that his machine, which requires but one horse power, with two men, will do the same work within at least from two to three days, at the rate of one ton per day. Mr. C. has taken measures to secure a patent.

Bolton, Vt., Dec., 1854. J. R. JEWELL.

CYCLE OF GOOD AND BAD CROPS.

The article given below, from a recent number of the *Scotsman*, will be read with interest by every inquiring, investigating farmer. The theories advanced are new, and as yet are only theories, but we must confess they have some plausibility. It will be seen that for thirty-seven years past, there have been successive periods of four and five years of alternate good and bad crops, and that science sheds a glimmering ray of light upon the cause of these periodic variations. It will also be seen, that, if the theory proposed prove a correct one, we have just entered upon a four or five years course of poor crops generally over the globe; and consequently a season of corresponding high prices. The article is as follows:

The "uncertainty of the weather" has been a subject of complaint to the husbandman from time immemorial. Science has shown, however, that law and order prevail in many phenomena once deemed to be under the blind dominion of chance, and ingenious men have indulged the hope that a key might yet be found to the irregularity of the seasons—not that we shall be able to prognosticate whether any particular day or week will be foul or fair, but that we may have rational grounds for expecting a good season or a bad one, or a series of good or bad seasons. Intelligent farmers generally believe that a course of abundant crops is pretty sure to be followed by a course of deficient ones; but whether the cycle of good and bad crops is of a determinate or a variable length, and if determinate, how many years are required to complete it, are points upon which opinions differ widely, and certainty is perhaps despaired of.

A paper read a few days ago by M. Becquerel to the Academy of Sciences, on the culture of wheat in France, supplies statistical facts of some value bearing on this subject. They show that there is a periodicity in the recurrence of good and bad harvests; that five or six years of abundance, and five or six of scarcity, follow each other pretty regularly. From want of capital and enterprise, and good means of internal communication, the French are more dependent on their own harvests than we are in this country, and the difference between a good and a bad year telling more strongly on their markets, serves better to test the influence of the seasons. M. Becquerel quotes from Count Hugo the following table of the average price of wheat for all France:

	Francs per hect.	Shillings per qr.
1816 to 1821—period of scarcity	23,66	54s. 5d.
1822 to 1827—period of abundance	15,80	36s. 4d.
1828 to 1832—period of scarcity	22,00	50s. 7d.
1833 to 1837—period of abundance	16,16	37s. 2d.
1838 to 1842—mixed period	20.31	46s. 8d.
1843 to 1847—period of scarcity	25,68	59s. 6d.
1848 to 1852—period of abundance	16,68	38s. 4d.

We arrive at a similar result by comparing the imports and exports of wheat, and taking the excess of the one over the other:

			Hectolitres.
Scarcity	1816 to 1821	Excess of Imports	6,247,000
Plenty	1822 to 1827	" Exports	1,258,000
Scarcity	1828 to 1832	" Imports	9,528,000
Plenty	1833 to 1837	" Exports	944,000
Mixed	1838 to 1842	" Imports	1,126,000
Scarcity	1843 to 1847	" Imports	18,697,000
Plenty	1848 to 1852	" Exports	13,188,000

The hectolitre (26½ gallons wine measure,) contains 22 imperial gallons, or three hectolitres are a trifle more than a quarter, (480 lbs.) It will be observed that the importation of wheat in France, in years of scarcity, is very small when compared with ours. Thus, in the period of 1843 to 1847, while wheat averaged 59s.—a very high price in that country—the whole imports in the five years were only 20,161,000 hectolitres, from which, deducting 1,164,000 of exports, there remained for consumption only 18,697,000, or 6,400,000 qrs. In the period of scarcity, from 1816 to 1821, when the price was 54s. 5d., the imports were only 6,247,000 hectolitres in six years, or about 345,000 qrs. annually.

The five years from 1847 to 1852 were years of abundance both in France and Britain. Supposing, then, that the change takes place quinquennially, we should now be at the commencement of a period of scarcity, and that the present year fulfils this character in manifest from the state of the markets on both sides of the Channel. The French average for the first two weeks of November, as given in the *Moniteur* a few days ago, was 29.97 per hect., or 68s. 11d. per qr.—a famine price in France; and the British average for the whole of November was 71s. 1d., making rather severe dearth. It is, therefore, a question of some importance, whether we are to regard the present deficient crop as a pure "casualty," an evil which an opposite casualty the next year's abundance may redeem, or as the first of a series of bad crops. In our opinion, the hypothesis of a five years' cycle, embracing the latter conclusion, though not established beyond challenge, has a sufficient probability to render it worthy of entering into the calculations of farmers, corn merchants, contractors for public works, and even ministers of state.

A hypothesis offered to explain anomalous or seemingly discordant physical facts is more readily accepted when we trace in it the operation of some physical cause. In the *Scotsman* of the 6th of September, 1845, we gave an account of a memoir published by Schwabe, a German astronomer, on the spots of the sun, in which he maintained their periodicity, that they increased for a certain term, then diminished for an equal term, and that the interval between the maximum and minimum was about five years, so that the cycle was completed in about ten. This conclusion rested on the observations of 18 years, which (as Colonel Sabine informed the British Association at Belfast) have been since extended to twenty-six years, and with the same result. Now, as the light and heat of the sun are obviously essential to the success of grain crops, it occurred to Gautier, a French or Swiss man of science, to compare Schwabe's cycle of the solar spots with the results of the harvests in France, as shown by the price of corn; and he found that, taking the years in groups, to eliminate accidental influences, those in which the sun had few or no spots coincided with years of abundance, and those in which the spots were numerous with years of scarcity. We have here, then, a glimpse of a physical cause to account for these alternating periods of scarcity and plenty, which experience has forced upon the attention of our farmers. It is true that the spots of the sun cover but a very small portion of his surface at any time, but the decrement of heat in a bad year is also small compared with the whole quantity which the earth receives from the sun; and it is not improbable that, besides causing a direct loss of light and heat proportioned to their size, spots when abundant may indicate a general enfeeblement of the heating and illuminating power of the whole surface of the sun.

The progress of science is constantly adding to our knowledge of the latent ties which connect the most distant parts of nature. Those minute deviations from the normal position of the magnetic needle, called its diurnal variation, were discovered a hundred years ago, and gave plain indications of solar influence. It was only known within these few years that these variations were themselves subject to variation—were greater in some years than in others—and that another class of phenomena, called "magnetic storms," sudden and seemingly unaccountable disturbances of the needle, disclosed themselves. It is now found that these are periodical also. To use the words of Colonel Sabine, "there is a periodical variation or inequality affecting alike the magnitude of the diurnal variation, and the magnitude and frequency of the disturbances of storms, and the cycle or period of the inequality appears to extend about ten of our years, the maximum and minimum being separated by an interval of about five years." Perhaps by-and-by the hopes and prospects of the husbandman may be read in the vibrations of the compass.

TO PROMOTE THE HEALTH OF CATTLE.

Mix occasionally one part of salt with four, five or six parts of wood ashes, and give the mixture to different kinds of stock, summer and winter. It promotes their appetites and tends to keep them in a healthy condition. It is said to be good against bots in horses, murrain in cattle, and rot in sheep.

Horse-radish root is valuable for cattle. It creates an appetite, and is good for various diseases. Some give it to any animal that is unwell. It is good for oxen troubled with the heat. If animals will not eat it voluntarily, cut it up fine and mix it with potatoes or meal.

Feed all animals regularly. They not only look for their food at the usual time, but the stomach indicates the want at the stated period. Therefore feed morning, noon and evening, as near the same time as possible.

Guard against the wide and injurious extremes of satiating with excess and starving with want. Food should be of a suitable quality, and proportioned to the growth and fattening of animals, to their production in young, and milk, and to their labor or exercise. Animals that labor need far more food, and that which is far more nutritious, than those that are idle.

In dry time see that the animals have a good supply of pure water. When the fountains are low, they drink the drainings of fountains, streams, and passages of water, which are unwholesome.

If barns and stables are very tight and warm, ventilate in mild weather, even in winter.

For the New England Farmer.

OTHER PEOPLES' BUSINESS.

BY HENRY F. FRENCH.

There is an old saying, that half the people in the world have no idea how the other half live. Perhaps we should not get far out of the way, were we to say, that half the world have very little idea how they live themselves!

Everybody knows how the *minister* lives—that he has a salary of so many dollars, upon which he *must* live, and in respectable style, such as may do credit to his parishioners, who of course do not want to be disgraced in their character for liberality, by having his coat out at the elbows. Everybody knows how most men who have salaries live—just up to their incomes, and hard work at that. But every body does *not* know how much it costs a farmer to live, and least of all does the farmer have any idea of how much he really expends, not in money, but in money's worth, of those articles for which others pay money. It is very easy, again, to learn how much is produced of the great staple articles of export, as of cotton, and of those produced on large plantations, as sugar and rice. The article *hay*, which is of far more value than the cotton crop, is hardly named as a great staple.—The annual growth of live stock is stated at a value of forty millions of dollars above that of the cotton crop, while the sugar crop—maple sugar and all—is not a *tenth part* the value of the annual crop of wheat. So with regard to the amount produced by the *labor at home* of men, women and children, not connected with farm labor, though performed by farmers and their families.

This train of thought was suggested by some facts which came under observation a few days ago. Upon a hearing before the road commissioners of Rockingham county, on a petition to lay out a new highway in the towns of Candia and Deerfield, it became necessary to investigate the business of those towns, to ascertain what occasion they had for more roads to market. The facts, which will be given, were stated by witnesses under oath, and were not controverted. Both the towns named are usually called mere agricultural towns. Both together, they have about thirty-five hundred inhabitants, and pay just eight dollars eighty-two cents of every thousand dollars of our State tax, or in other words, in wealth, they compose less than *nine one-thousandths* of the value of the State of New Hampshire. The first remarkable development was, that this agricultural community of the two towns is every year buying and paying for *two thousand barrels of flour* and *seven thousand bushels* of Indian corn and meal, and about seventy barrels of salt pork! These facts appeared by the way-bills upon the railroad, and were verified by traders of the towns, who bought and sold the articles. Horace Greeley was never more puzzled by the balance of trade, than were we at this intelligence, and, for the moment, we were inclined to lay aside our free trade notions, and go in for a tariff on corn and pigs, to be established by the New Hampshire General Court, for protection against Massachusetts and New York; for the evidence showed that we are open to encroachments in both directions, the flour and corn coming in, sometimes by way of Ogdensburg, N. Y., and the pork from Boston. However, those who buy, must, in the long run, pay, or they cannot get trusted, and as these towns gave every outward sign of prosperity, we proceed to inquire how they got their money to pay with. We found several persons engaged in making shoes. They are generally traders, or, as we call them, store-keepers. They buy the stock, cut it, and send it out to be *fitted*. This is done by women principally, and consists in binding and sewing the upper part of the shoe preparatory to putting on the sole. After fitting they are returned to the store, and again sent out to be *made*, or have the sole put on, and are again returned, and are finished and packed away in boxes, called *cases*, and are ready for market.

It was proved that about *two hundred and eighty-eight thousand* dollars worth of shoes are made yearly, in these two towns—in this less than a hundredth part of New Hampshire, and that not less than forty per cent. of this amount, or one hundred and fifteen thousand dollars, is paid for the *labor*. This is nearly thirty dollars for every person, from the baby of a day old to that venerable individual called the "oldest inhabitant"—every person, sick and well, lame and lazy, poor and rich!

Now, we see how those towns buy thirty thousand dollars worth of grain and flour a year, besides consuming their own produce! Yet these, as has been said, are farming towns, and although just now their dairies are small, and their farming operations not extensive, yet they have *the land behind them, and nobody can be their master.* If the price for shoes does not suit them, there is no need of a strike for higher wages—no need of mobs and violence. They are independent, because they can turn to their mother earth, whose beautiful bosom is bared for their support. There is a dangerous element in all large manufacturing establishments, in all factory towns and villages. God grant it may never work out, in this country, what has happened in England and elsewhere abroad. The danger is that wealth, associated wealth, may crush out individual independence. In *home manufactures*, like this alluded to, there can be, for the reasons suggested, no such danger.

And, by the way, there is fair opportunity to test the accuracy of the census tables, to some extent, by the facts before us. The census of 1850 gives

the value of "home manufactures," for this county as $36,330; nor do we find any other item under which this matter of labor on shoes at home can be comprehended in the census tables. Now the population of this county is set down, in the same census, at 49,194, and if the "*home manufactures*" of the rest of the county are in the same proportion to the population as those of Candia and Deerfield, they would amount to about *one million six hundred thousand*, instead of the *thirty-six thousand* dollars credited to us! The former amount is undoubtedly much nearer to the truth than the latter. Whatever the result might be, on investigation, it is certain that the towns upon which the calculations are based are not generally reputed to be engaged in manufactures above the average of their neighbors.

It might be well for gentlemen at the South and West, who wonder how the people can live in New England, to inquire enough into our affairs to relieve themselves of any unhappiness on our account. It might be well, also, when the next census is taken, to have it done in such a manner as to furnish some indication, at least, of the resources of New England, as well as the rest of the country. There seems to have been no attempt to ascertain the manufactures of any part of the United States, except of "home-made" articles, and what that item includes is not very manifest.

In this view, we have something to do with "other people's business."

Exeter, N. H. Dec. 12, 1854.

ORCHARDS, APPLES, AND THE MARKET.

"David, I am going to quit the nursery business. In twenty-one years fruit will be a drug in New York city. Why, everybody is setting out orchards. Just look around this neighborhood. There is deacon Jones has just set out 500 trees; Tom Smith 400, and his brother Jim will have 1000 next spring, and soon, at that rate, all over the country; grafted fruit, too, none of it for cider. Now what do you suppose is to become of all these apples? I tell you what it is, David, we must wind up the nursery business, or we shall break flat. Everybody is going crazy about fruit. Everybody will grow it, but nobody buy it, a few years hence."

This prognostication was made more than twenty years ago, by a sensible man engaged in propagating choice fruits for sale, in Central New York, and no doubt the speaker honestly believed the days of the nurseryman were well nigh numbered. Brother David, however, was of a different opinion. He did not believe it was so easy to overstock the market with such fruit as no other than American soil and climate can produce. He did not believe ere twenty years' time would elapse, everybody would have an orchard, the products of which would be so unsalable, and the business so unprofitable, the owner could have no desire to plant more, or better, or newer varieties of trees; consequently he urged that the business should be perseveringly continued until the dawning of the evil day was more visible in the horizon.

What has been the result? A sale of 40,000 apples trees and 7,000 of other fruits, during the planting season of last year, and the prospect for the next equally good. The very men who had planted 500, have increased 1,000, and some of them have doubled that tenfold; and yet the market is now better than it was ever before, for all the choice varieties of the product of orchard, vineyard, or garden. The market is not glutted, nor can it be while millions of mouths continually water for the luscious fruits which contrast so advantageously with the sour crabs, "five to a pint," which filled the market twenty years ago. The market cannot be glutted with such fruit as the Newtown pippins, Roxbury russets, Rhode Island greenings, Baldwins, Bellefleur, Swaar, Domine, and a great variety of other excellent winter keeping apples; while the luxury-loving mouths of old England are within two weeks, (we have done counting distances by miles,) of the fruit-bearing hills of New England. Nay, not only New England and New York, but the ever bearing trees of the rich plains of that once far away western wild, known in our boyhood as New Connecticut. But still the market is not glutted, nor will it be, though all Ohio, Michigan, Indiana, Illinois and Wisconsin, shall pour in their golden treasures of golden pippins from their unbounded plains of the richest fruit bearing land the world ever saw, while that same world full of people possess the taste they now do for choice, delicious fruits.

Our advice, therefore, is, as it has always been, to every man who owns an acre of land—plant trees. Don't be afraid of overstocking the market with any kind of fruit, except such as your fathers used to grow, and some of you still perpetuate; because the refined and improved tastes of the world demand, and will have, if it is procurable, the best that can be grown.

Since writing the above, we have met with the following item, illustrative of our remarks upon the fruit trade:—

Fruit Trade of Oswego—New York Apple Women.—It is estimated that nearly $40,000 will be circulated in this county this autumn, by speculators in fruit. Some 20,000 barrels of apples have already been purchased, and many of them shipped to New York. They were Spitzbergens and Greenings, and the price to the growers has averaged from $1 to $1.50 per barrel. The fruit of the entire county has been bought up, one firm in this city alone having contracted for about 8000 barrels of winter apples. Some of them which were bought for ten shillings, have already been sold in New York for $3.00.

An energetic and skilful business woman, who keeps a fruit stall in Fulton Market, was in town the other day, and bought 1000 barrels of apples, giving her check for the amount. She has made her fortune in the business, and will no doubt make $500 out of the operation. She bought a few barrels of choice pears here, at $11 per barrel. She will sell the same in New York for double the money. We cannot but recommend to the farmers to bestow more attention upon fruit-growing. It will at all times produce a golden harvest.—*Oswego Journal.*

For the New England Farmer.

MATURING PLANTS.

[REPLY TO R. MC I.]

BY A. G. COMINGS.

Mr. McIntire further notices my article as follows:—"He asserts that those plants which produce seed the first year of their growth, and then die, draw away the substance of the roots to mature their seeds, and is the cause of their death Is this true, or do they die because they have fullfilled the law of their being? Are these [there] not perennial plants that produce and mature their seed from the first and many successive years from the same root?"

1. I will answer: first, as to the law of being of plants, that is part of the question. It has been supposed by many, like Mr. McIntire, that certain plants have a fixed time to live, however they may be treated, and that their death must come then, "as shure as fate." Certain bulbous rooted plants, as the onion, (and I think herd's-grass has the same habit,) form a bulb one year and produce seed the next. A new side bulb is formed on the year of seeding, and the seed-producing bulb dies with the production of seed. Yet the onion, if it does not mature the bulb the first year, will not produce good seed the second year. Put that idea up garret, and if you want to raise good onion seed, be sure you set the most perfect and ripe bulbs; for it is a law of such plants to depend for the accomplishment of the second year's work, (producing seed,) upon the capital accumulated the first year. Small bulbs, or small tap-roots, in a soil containing only a small amount of carbonaceous food, will produce but a small quantity of seed, and much of that will most likely be shrivelled and worthless. This fact is sustained by the experience of almost every farmer. The reason is evident.

We may also add, if it is so with bulbous and tap-rooted plants, how much more dependent upon the soil will be the fibrous-rooted plants, such as corn, wheat, rye, oats, &c. If I mistake not, none of these die at the root until they make the natural attempt to produce and mature seed. Yet, the biennial plants, whenever for any cause they are hurried to mature seed the first season, lose vitality at the root.

I have seen fields of clover used as pastures for cows, in which the clover roots lived many years. It would not be so, however, to use pastures as New England farmers generally do. (Of that I have not now time for further explanation.) Facts assure me that clover, in proper circumstances, will live many years. It will not, however, if it is allowed to drive its vital forces into the production of seed. Even the blossoms of clover contain a rich store of carbon and nitric acid, ready to supply the first want of the growing seed. If the root is exhausted of these substances in combination, die it must. No plant dies until the vital energies of the root are exhausted, in ordinary circumstances.

In the animal and in the vegetable kingdoms, the first great law of health and life is that the preservation of the vital energies preserves health and perpetuates life; while the only natural cause of death is the exhaustion of those vital forces. This great principle ought to be understood by every man, every woman and every child. It is applicable to all animal life, in man or brute, and is alike applicable to all vegetable life. It should be written where it would be read in the morning and in the evening, at the going out and at the coming in of every thinking, moving mortal. Life and health are more for our own keeping, than to be thrown into the care of doctors. Trees, grapes, shrubs, all may die from overbearing. It is the exhaustion of the vital energies. Death is not natural from any other cause. Man, the monarch of this mundane sphere, may overtax his energies for the reproduction of his species, or task himself in daily toil beyond his gifts, or neglect his regular supply of wholesome aliment, and he quickly brings the enginry of death thundering along his track. Not an eye grows dim, not a hair is blighted, not a flower fades, without a cause.

2. Mr. McIntire says, "Some farmers never plow in grain crops, and yet for many years raise good crops of corn and grain. How is this fact reconciled with his remarks about seed-producing crops exhausting the soil, and rendering it necessary to plow in grain crops?"

Answer. There were in my old arithmetic, which I used in the simple times of my boyhood, when I went to school at the old district schoolhouse which stood on the shady side of a New Hampshire hill, two very simple rules, called Addition and Subtraction. From the simple rules of that very simple old arithmetic I was simple enough to take the idea that a continual taking away, which was called subtraction, without any putting back, which would be called addition, would result in the exhastion of what there was at first; so that, after a while, when the trial should be made to take something away from nothing, the answer as given by the old school-master would be, "*You can't.*" Well, I fell into the simple idea of applying this to farming. So I would say to Mr. McIntire, if those farmers who have taken many good seed-crops from the same soil work only by the rule of subtraction in reference to the carbonaceous matter in the soil, the time must sooner or later come when the answer of their figuring will be "*You can't.*" Facts are as strong as figures.

Carbon comes not alone from the plowing in of green crops; but it all comes from green crops, originally. From deposits of meadow muck, or from animal excrements, the needed supply of old vegetable matter may be obtained, for small lots of ground. But why should the idea of manuring with green crops be so generally disregarded, when millions of acres of New England soil could thereby be made worth double what it now is, by a small outlay of expense. There is just the same sense in crop after crop, and then crop after crop, requiring carbon, without adopting a course of action to replemish the soil, that there would be in milking, milking, milking, day after day, week after week, the old brown cow, without giving her hay, grass, grain or roots, out of which to manufacture milk.

Certain it is that the husbandman has a right to put the atmosphere and the rain under the strict payment of tribute, for his profit, as well as the merchant or the miller, the sawyer or the sailor.

Right up here in this blue atmosphere, ready to be sucked into the solid matter of vegetable growth, is a mine of manure, more inexhaustible than the mines of Peruvian Islands, and more precious in value than mountains of gold. Every breathing

thing is contributing daily to increase it, and every plant sucks in a part of it. The great Creator has provided it, and it is open and free to every man who will accept the gift. "I don't believe in this idea that this vegetable matter ever goes down into the plant," says Grandfather Fogy; "I believe it all goes upwards in the plant, to the very extremities."

Well, now, just follow down that pine root, if you please, fifteen or twenty feet below where there is any other carbonaceous matetr. There it is, the same substance of those spreading limbs. The carbon has gone down there, and there it is, in the little fibres, creeping out this way—creeping out that way—creeping in every direction; and not a single soul in all the realm of reasonable existence, wise man or wizard, fanatic or fool, can screw his credulity up to the point of believing that those roots began to grow at the outer end, and then grew bigger and bigger, until they bit hold of each other and found a tree ready to be fathered by the fraternity. A. G. COMINGS.

New Hampshire.

FOR WHAT?

"Pa, did God make oysters?"

"Yes, my son."

"What for?"

"For us to eat."

"Well—but then, why do they have shells?"

This was a riddle to the little fellow—that oysters are made to be eaten, and yet were made with shells to prevent their being eaten. The same question of the intention of God in the creation of things, meet the student of Nature at almost every spot.

Every plant has been given some way of resisting injury. The blades of grass have saw-like margin. The leaves of corn are sharply edged with flint. The heads of grass are bearded. The kernels of all nuts are cased in by a shell to prevent their being destroyed. And yet there have been animals made for the destruction of all these. Cows with rough tongues for drawing grass into their mouths; horses with front teeth like shears for cutting it off; and sheep that chop it off with their under teeth against their upper gum, as a hatchet chops on a block. The teeth of squirrels are softest on the inside that they may wear sharp, and grow continually that they may not become too short. In this way, they are kept keen enough to go through the shell of a dried butternut, though it turns the edge of a knife. These self-sharpening teeth were surely made for chiselling the shells of nuts.

Every animal also has been given some means of defence. Horses have their teeth, and their hoofs and their speed. Oxen have their heels and their horns. Even sheep have their wool, and some speed, and can butt. Oysters and turtles their shells, and hedge-bogs their quills.

But for the destruction of these, there are the carniverous races, with claws to catch them, with tusks to transfix them, and with intestines that can be used for no other purpose than to digest their flesh.

Fish have been given an instinct of fear, and the use of fins with which to escape from the fish-hawk, and yet this bird was given a beak and talons, and must live by their destruction. It seems as though everything has been arranged to prevent death on the one hand, and yet to effect it on the other.—*Country Gentleman.*

HOME-MADE FURNITURE.

In the present pecuniary troubles many a wife finds an unusual necessity for practicing the strictest economy in household matters. Perhaps housekeeping is just to be commenced, and the great problem is, how much furniture and how many conveniences can we afford to procure. A little money must go as far as possible. Such would perhaps like to be initiated into the art of making cheap articles of furniture, both useful and ornamental. Many a neat and comfortable sofa or lounge, chair, stand, bed, book-shelves, &c., &c., have we seen, that cost its owners almost nothing.

A few boards, a little stuffing, and a few yards of shilling calico, put together with ingenuity, will give a tasteful and even elegant air to an otherwise bare and comfortless room. Most of the work we shall describe can be done by the females of the household, and we are sure will afford them more pleasure and comfort than the so-called "ornamental" worsted-work, bed-quilt piecing, &c. And in almost every family there is enough mechanical ingenuity among the boys, if not among the girls, to do the sawing and nailing.

A simple *Lounge* can be made by taking a broad, thick plank, strengthening it by nailing on cross pieces underneath and inserting four short legs; add a cushion filled with any material you wish, and add a valance of the same to conceal the legs. A back and either one or two ends may be added, if desired, by nailing on boards and cushioning them like the seat.

A *Cot Bedstead* many of you know how to make. Take four sticks about four feet long and three inches square, bore an inch hole through the middle of each, and put a round stick, six feet long, through, and pins through the ends; arrange these like the four legs of a saw horse; then, to form the sides, connect the head and foot posts by nailing a rod or strip of board on to their tops; take a piece of bagging 6 feet by 4, stretch it across and nail it firmly on to the side pieces. To strengthen this, make a narrow head board, nail on a small rod at each end, and bore holes in the side-pieces to receive them. By lifting this head-board out, the bedstead can at any time can be folded together and laid aside, if not wanted.

A convenient *Seat* for children, or for the garden, is made like the cot bedstead, with the head board omitted. The sticks for the seat should be one foot long; those for the legs, one foot six inches long. Bind a bit of carpeting for the seat. These are so light, and so easily folded and carried about with one hand as to be very convenient.

Hanging Book Shelves are another article of furniture easily made, and very convenient. For a small size, take three planed boards one-fourth of an inch thick, let the largest shelf be about 30 inches long by 8 wide, the others each one inch narrower and two inches shorter than the one below it. If convenient, paint, or oil and varnish them. Bore a gimlet hole in each of the four corners, take a stout cord and pass it down through one hole in each shelf, taking care that it is at the same corner of each, then pass it up through the remaining holes in the same end, making a knot in the cord under each shelf for it to rest upon. Pass a cord through the other end in the same manner, and tie the four ends of the cord together a foot and a half above the upper shelf, and hang it up.—*Ohio Cultivator.*

For the New England Farmer.

AN HOUR IN A GREAT BARN.

A little above the Concord station on the Fitchburg Railway, the traveller may see on the north side, at a distance of one-third of a mile, a most spacious barn, built by the present proprietor of the "Treasurer BARRET farm," S. P. WHEELER, Esq.

The building is one hundred and twenty-five feet in length by fifty-four in width. The mansion house was occupied by Harvard College during a portion of the revolution. What a space this barn would have furnished the students for recitation halls!

The barn has a projecting roof with water gutters, which not only make the entrance more comfortable, but protect the painted sides of the building from being scoured by the heavy rains. None can deny, too, but that the projecting roof combines a great deal of beauty with its utility.

The barn stands nearly east and west. The cow stable is on the south side, extending the whole length of the barn; there are several entrances — all the doors being upon wheels, and opening with a touch. The stable is also perfectly lighted by numerous windows, protected outside and in, by substantial guards. There was a pump by the door where I entered, which supplied water to the stock indoors, when desirable. One of Fay & Dakins' large bore wooden pumps was about being set in operation in the yard adjoining. Taking things as I saw them, the next thing was the scuttles; these were a foot wide, back of the trench, and hinged on to the platform; no manure falls upon the scuttles. They can be thrown over with ease with a hoe, and the stable frequently cleaned with very little labor. The scuttles shut down upon the bottom of the trench, leaving a large and sufficient passage for the escape of the urine.

The trench, the space between the scuttles and the platform under the cows, is eighteen inches wide and two and a half deep. Experiments prove this depth to be hardly enough.

The cows are all fastened in stanchions which were numbered. The stanchions were each supplied with a chained pin, are uniform, planed, and painted a dark lead color. The long stall for cows holds forty head; nearly this number looked sleek and happy in their comfortable quarters. The stable is fourteen feet in width, which includes a space three feet in width in front of the stanchions, forming also a desirable widening to the barn-floor when not in use for feeding. There is no "crib" or "rack" to be seen. The cattle eat from off the floor. The timber holding the foot of the stanchions prevents any hay from being drawn under their feet and wasted. As I saw no partitions between the cows, I asked the polite superintendent if the cows didn't hook one another; he assured me that they did not. The cows had been fed with husks, and a man took a rake, and with the back of it, slid the butts left into a pile as quick as he could walk the length of the floor. I saw a cutting machine and a mixing trough; but I made no inquiries about the feeding.

The barn-floor extends from end to end, where there are large doors upon the largest size rollers. The floor is planked lengthwise, and is very smooth and substantial. The posts, of which there are twenty-five in the floor, are eighteen feet in height. The scaffold, usually called the "rye-beams," is of uniform height with no *drops*, which some consider a gain in unloading hay. A room in the north side of the barn, opening into the floor, is devoted to meal, grain, and farm implements.

The carriage-house and horse-stables are all comprised in an L which opens upon the door-yard. Here is room to drive in several carriages and untackle, entirely protected from the weather. The common labor of "getting fixed off," must be almost wholly unknown with such conveniences.

I next went into the cellar; it is the whole size of the barn, and has an entrance (sliding-door) on the east side. The bottom is planked to prevent the escape of the liquid manure, as the cellar was dug in sand. The manure of course occupies the south side — an immense pile. It is occasionally levelled, and earth and absorbents thrown on to keep it in a good state. On the north side of the cellar were immense piles of roots, of which about a thousand bushels were raised the present season. This fact may have some connection with the soft skins of the animals above. The cellar is eleven feet in height, is walled in a very substantial manner, and perfectly lighted.

The outside of the barn is covered in the style known as the "Swiss fastening," that is, boards are put on extending from the brackets down, and then the joints covered with narrow, levelled strips, about two and a half inches wide. There is a large cupola on the ridge, and a number of smaller ones along on the roof at intervals half way down. The whole exterior is handsomely painted.

This, Mr. Editor, is a sketch of my observations during the hour I spent in this fine barn. I fear I have conveyed to your readers, a very inadequate idea of the whole. A good barn is a matter of so much consequence to the farmer, that I am interested in every attempt to improve the standard. There are several others in town; I hope to be able to report to you, perhaps more fully.

Respectfully yours,

WILLIAM D. BROWN.

Concord, Mass., 1854.

APPLES.—The crop of apples in New England this year, as it has been every even year since the Baldwin came into general cultivation, is too large for the demand, and the price has been drooping, until they are now dull in Boston at $1.25a$1.50 per barrel, and may be had delivered at the railroad depots, 30 or 40 miles from Boston, at 35 to 40 cents a bushel, or $1 without the barrel, the cost of the barrel and of transportation bringing them to about $1.25 to $1.50 on the railroad.

REMARKS.—We copy the above from the *Boston Daily Mail.* Good Baldwin apples are selling in Quincy Market, to-day, Nov. 10, for $1.50 to 2.00 a barrel, and the demand is equal to the supply. The sale is quick for good, well selected apples. We hope our friends will not find discouragement in this report. They can raise apples at a profit at 1$.00, barrel not included; and when they are lower than this, they can feed them to cattle and swine with as much profit as can be found in any other crop.

From the Ohio Farmer.

BRIEF PRACTICAL HINTS TO FARMERS.

Water for Stock—Summer Feed—Shade and Shelter—Warmth.

The Israelites had this proverb, "He that soweth sparingly, shall reap also sparingly, but he that soweth bountifully, shall reap also bountifully." This saying accorded so well with their sense of what is fitting and right, and was so often verified in their experience and observation, that it came to have an application much beyond the special and simple import of the words. In fact, this proverb is but a partial expression of the great truth, that this world is arranged on a system of order and justice, which conditions every man's havings or his doings, his receivings or his givings, his success upon his enterprise depends, and it causes society, and even nature, to reflect back on him the tone of his own spirit, whether he be a niggard or whether he be a man of a liberal soul.

On looking at the condition of our farms, and thinking of the objections so often urged, and still oftener felt, against almost every proposition for agricultural improvement, it has occurred to me that we especially need to receive the lesson contained in the proverb to which I have referred, and to become much more deeply impressed with its truth, and the extent of its application. Wheat, and oats, and rye, are not all the farmer has to sow; thought, and labor, and capital are as much germinal and productive principles at his disposal, as the seeds of plants, and it is in his use of these, especially, that he will find the proverb verified, and be compelled to reap as he has sown. That my remarks may be practical and useful, I propose so far as time will permit, to specify cases to which this principle will apply; or in other words, I will endeavor to point out a few opportunities of securing bountiful returns for some additional outlays upon our farms; and first:—

Of Providing Water for Stock.—In many portions of Ohio there is, in dry seasons, a deficiency of water for stock. I think its importance in the animal economy cannot be understood by many of our farmers, or more strenuous efforts would be made by them to secure a supply. Water is needed by animals to supply the waste occasioned from the blood by evaporation, and the various secretions—the stomach needs its aid as a solvent of the substances taken as food, and which, without it, cannot be readily digested; and besides, it enters largely into the composition of all animal bodies, not only of the fluid portions, but also of the solid. Some animals may indeed make out to live with but a scanty supply, but none without it can thrive as they would with an abundance of water to drink. In some localities there are neither durable streams nor copious natural springs; but stock ought not therefore to be permitted to suffer; certainly not, if we can find at the foot of hills, or banks, wet places where by carefully collecting the water by drains, made of stone or draining bricks or tiles, it may be brought to one point, and into a trough, or some other convenient way, be made available. When springs of this kind are to be improved, it is probable that on most farms are streams or temporary water courses, large or small, which, though not durable, may be dammed up to form ponds or reservoirs, in which the water may be kept through the whole summer, fresh enough for stock.

In addition to the advantage of such reservoirs for stock, it may not be amiss to hint that when the places for them are well selected, and the surroundings arranged with some degree of taste, they may be made to add much to the beauty of our farms; and in favored situations, when they can be supplied with good springs, let them be stocked with fish, and thus afford a new source of pleasure or profit.

Of Summer Feed.—During two or three of the hotter months, our cattle and sheep improve but little. This is not so much owing to the discomfort of the heat, as to the fact that the grass stops growing during the hottest and driest weather. If our pastures could be kept as fresh and luxuriant through July and August, as they are through May and June, how much more uniform would be the growth and improvement of our stock.

To secure a continual growth of feed, scarcely anything is needed but a continued supply of moisture to the roots of the grass, and this supply of moisture may be secured by *deeper tillage*. On lands that have been deeply plowed, and especially on those where subsoiling has been practiced, the roots of clover, or grass, will go below the parched surface, and support a continuous growth of herbage in the driest weather, or even in the driest seasons.

Underdraining is also an important adjunct of deep plowing in promoting the growth of summer feed. On tenacious soils, where underdraining is not practiced, the surface is usually thrown up into lands to facilitate the escape of what in some seasons would be a superabundance of water; when this is done, but little moisture penetrates the soil for the summer supply. Were such lands underdrained at the depth of three feet, or more, the surface might be left entirely level, and all the water falling upon it invited to sink into the soil in connection with the various fertilizing agents suspended in it; this would obviate all danger from temporary or even continued droughts; while in wetter seasons the drains would prevent mischief from excess of moisture. And in seasons like the past, *woods pastures* are of great value. If those portions of our farms which are reserved uncleared for the sake of the timber, were underbrushed and fenced, and well seeded with blue grass, which grows finely in such situations, they would, in the driest months, and especially in seasons of excessive drought, afford more than twice the pasture that could be obtained from fields perfectly cleared. A prudent farmer will certainly provide against a "rainy day;" should he not also provide against dry days, which, in this climate, are perhaps more to be feared?

Of Shade and Shelter.—What a *tree hating* spirit possessed the earliest settlers of Northern Ohio, and their immediate descendants. How few fine trees were left, either to beautify the landscape, or for grateful shade. In Southern Ohio, the pastures are usually shaded with groups of forest trees; and who that has seen the satisfaction that cattle and sheep manifest in their shadows, in the scorching days of summer and autumn, can doubt their utility? When the thermometer is up to 90° Fahrenheit, it is as much as fat cattle, or indeed any cattle, can do to keep cool, even when not subjected to the direct rays of a burning sun. If they do keep cool under such circumstances, it

is by means of excessive evaporation, and a great waste of moisture from the system, and when subjected to this, they will add but little to their size or weight.

Shelter is as important in winter as shade in the summer. I need not dwell on the liability to sickness and death from exposure to all the vicissitudes and inclemencies of our winter weather. The annual loss sustained from such causes has, I presume, made this matter sufficiently clear; but the increased *consumption of food* consequent on deficient shelter, is possibly not as well understood. Food, as every one knows, is required to furnish the materials for building up the animal frame, and for repairing its continual waste; but in cold weather the larger portion of what is consumed, is appropriated to the production of *animal heat.* The carbon of the food combines with the oxygen taken into the lungs in respiration, and in the union heat is evolved in a manner analogous to that by which heat is obtained from the consumption of fuel in a stove. Whatever the temperature of the atmosphere, the circulating fluids of animals must be kept up to a uniform heat, or death will ensue, and enough of the food consumed will be used for this purpose before any can be appropriated for the purposes of growth or fattening. Build good comfortable shelters for all kinds of stock, in which they can feed and lie warm, and it will soon prove to have been a profitable investment in the saving of food and in the better growth of the animals.

N. S. T.

For the New England Farmer.

WITCH GRASS.

MR. EDITOR: — It is often the case that we may partially cure an evil, when we cannot wholly eradicate it. A selection in the last week's *Farmer*, on the subject of witch-grass, — a subject well calculated to excite the malevolent feelings of one's nature, who may have much of it to deal with, — has led me to pen a few thoughts on the subject.

I have succeeded pretty well in eradicating it from three different kitchen gardens by breaking up the ground and planting with potatoes, and the next spring, after plowing, by going over the ground with the manure-fork, and throwing out the roots into heaps, and wheeling them into the hog-pen; plant again with corn and potatoes in large hills, and during the first hoeing dig out every root. This, though a slow process, is not so much so as might at first be imagined. By watching every blade of this grass as it springs up during the season, it can be completely subdued, without any further trouble, after the second year. It is of no use to get vexed in the spring of the year, and swear vengeance against it by digging out a pile of roots, and stop there. The worst part of the difficulty is over, but a blade left here and there will, by the next spring, form an extensive supply of roots, for they grow late in the fall and early in the spring.

While surveying a piece of valuable intervale, the last summer, on the farm of TYLER P. TOWN, Esq., of this town, I was struck with the garden-like aspect of his farm, and was informed by him that he had succeeded completely in eradicating witch-grass from his field, wherever he had tried it, by summer tilling. He took a given piece of land and let it go fallow one year. During the drought of summer he plowed it and harrowed it several times, and in this way exposed the roots to the sun. The expense, he informed me, was about ten dollars an acre, which was cheap for land worth in the market one hundred dollars an acre. By repeated plowings, the land becomes completely dry during summer, when not covered with vegetation, and witch-grass roots *will* die when deprived of moisture, as well as other roots.

I remember, when a boy, that my father, whom I honor as having been a skillful farmer, was in the habit of sowing his fields, which were of a sandy soil and subject to witch-grass, with winter rye, and turning them out to a sheep pasture, and taking up another portion of pasture into his field. In a few years the witch-grass was completely eradicated, except around the stumps and fences. I believe that witch-grass rarely ever spreads by the road-side, even where it abounds in the adjacent fields. When witch-grass is troublesome around fruit trees, I have found spent tar not only a good mulching, but also a check to the roots of this grass.

I have no theories or suggestions to make on this subject. What I have written are plain matters of fact: and if they offer suggestions to others by which they may at least partially rid themselves of a weed ten times more troublesome than thistles, I shall be gratified.

N. T. TRUE.

Bethel, Me., Dec. 9, 1854.

REMARKS. — We hope to hear often from Mr. TRUE.

ROCKINGHAM FAIR. — The annual meeting of this society was held in Exeter, N. H., on Wednesday, Nov. 15, and the following persons were chosen officers for the ensuing year, viz:

President.

HENRY F. FRENCH, *Exeter.*

Vice Presidents.

James Pickering, *Newington,*
Jacob B. Brown, *Hampton Falls,*
Moses Eaton, *So. Hampton,*
David Currier, *Derry.*

Trustees.

Winthrop H. Dudley, *Brentwood,*
Silas F. Learnard, *Chester,*
Nehemiah P. Cram, *Hampton Falls,*
James H. Diman, *Stratham,*
Zebulon Sanborn, *Epping.*

Secretary.

Wm. P. Moulton, *Exeter.*

DEADENING TIMBER. — When the bark slips freely in June, July or August, it is the best time to girdle trees. Cut the small growth three feet above the ground; the roots do not sprout, and the stumps are more easily removed.

IMPORTANCE OF DRAINING. — By a recent decree of the French government, 100,000 francs, about $20,000, are devoted to encourage the manufacture of draining tiles for agricultural purposes in the provinces.

WINTER CARE OF CATTLE.

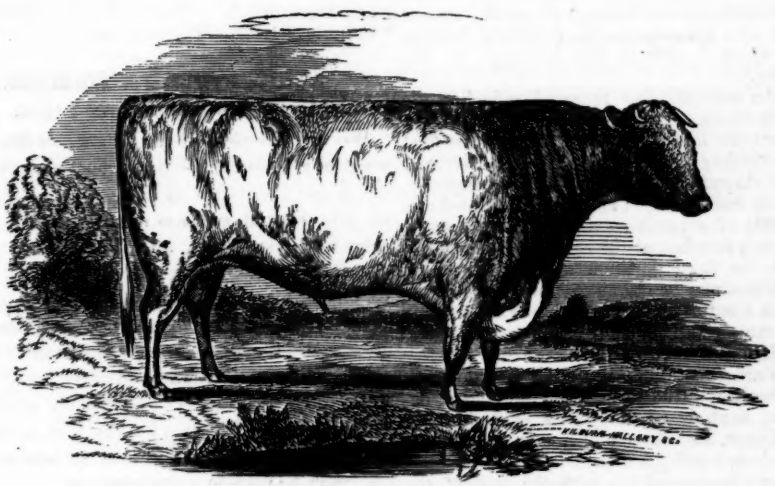
The good farmer should feel, that the comfort of the stock he owns is dependent in a great measure upon him. Especially is this the case in the winter. At this season, they require constant attention in feeding, watering, carding, &c. They should be fed at proper and stated times, and as nearly as may be, have an equal allowance at each meal. By this regular feeding, they will thrive much better, even on a smaller amount, than if fed at irregular times, and with varying quantities of food. They want, also, a variety in regard to food. A few roots are very useful to them daily. Corn fodder, if fed to them once or twice a day, will generally be eaten up clean, whereas, if they are fed on it constantly, much of it will be refused and wasted. They should not be put on the poorest hay first. This should be reserved, and fed to them occasionally, in the coldest weather, when it will be eaten up clean.

They should have an abundant and convenient supply of water. In this our farmers fail to supply the wants of their stock more than in feeding. Many depend for water upon a brook or spring, at some distance from the barn. In cold and stormy weather the cattle, especially the weaker and younger portion, are driven back, and not allowed to drink until their thirst becomes excessive, and then at the peril of being hooked and injured by the others.

Water, either by a well in the yard, or in some other way, should be supplied to the cattle in sufficient quantities, so that they can all drink as much as they choose. If the water is brought into the yard, the trough from which they drink should not be placed under a shed, or in a sunny part of the yard; if it is, the cattle after quenching their thirst, will stand around it and prevent the others from coming up.

We think well of the plan of keeping the cattle in the barn through the day, except when they are let out to drink; especially, if the barn is tight and warm, as all our barns in this cold country should be. They may be kept in as good condition on a less amount of food in this way, than if turned out in the cold bleak winds and storms; and much more manure will be saved to the farmer, by this course, particularly if there is a good cellar under the barn, and the owner has provided it with a good thick bed of peat, or some other absorbent to hold the liquid manure.

Above all things, it is poor economy for the farmer to allow his cattle to go roaming round through the pastures and by-ways, through the bushes and woods in the winter, browsing. They should be kept constantly in the yard, if not in the barn, for by this course alone will he save his manure, and if this is not saved, his next year's crops will at maturing show him his negligence and improvidence.—*Granite Farmer.*



IMPROVED SHORT HORN BULL.

We are mainly indebted to the Rev. HENRY BERRY, for just descriptions of this noble breed of cattle. In some localities they are great favorites, and prove good milkers and workers. The colors of the improved short horns are red and white, or a mixture of both; "no *pure improved short horns*," says Mr. YOUATT, "are found of any other color but those above named." Mr. JAMES DICKSON, another competent judge, says, "in its *points*, for quantity and well laid on beef, the short-horned ox is quite full in every valuable part; such as along the back, including the fore ribs, the sirloin and rump, in the runners, flanks, buttocks, and twist, and in the neck and brisket, as inferior parts." Mr. Dickson also speaks of their "exquisitely symmetrical form of body," as going to "form a harmony which has never been surpassed, in beauty and sweetness, by any other species of the domestic ox."

Mr. CULLEY, another writer, states that "the short-horned cows give a greater quantity of milk than any other cattle; a cow usually yielded 24 quarts of milk per day."

A SPLENDID BARN.

Few farmers can afford to erect a building equal to the one they plan, and still fewer build one like that described below. Still we publish a description of it, because he who cannot obtain all its advantages, may secure a part. Perhaps some of them can be provided for in those already occupied. We ask special attention to the manner of seeding. The description was given as appears below, by a correspondent of the *Rural New-Yorker*.

The barn belongs to David Leavitt, Esq., a merchant prince of New York city, who has a farm in Great Barrington, Mass., pleasantly located upon the Housatonic.

It is 200 feet in length, with a centre wing on the east side, three stories high, with an arched roof covered with tin, and a cupola on the centre, and erected at an expense of nearly $20,000. It is based in a ravine which it spans, thus affording an easy entrance into the third story. Through this ravine runs a durable stream, with which is formed a beautiful reservoir of water directly above the barn, that operates upon a wheel twenty feet in diameter, thus forming an excellent motive power that is used for a great variety of purposes, such as sawing wood and lumber, threshing, cleaning, and elevating the grain, cutting straw and stalks, unloading hay, depositing it in any desired loft, churning, grinding, &c.

The first story is used as a manure vault; the third for grain, hay, and apartments for domestics. The arrangement for feeding the cattle is most ingenious and convenient, the following description of which I give in the language of Mr. Wilkinson:—

"All the manual labor required in feeding the cattle is to run a car which contains 25 bushels of feed before the line of cattle, and shovel the food into the feeding boxes, which are of cast iron, quadrant shaped, of about 100 bushels' capacity, and one to each stall. The boxes are placed one on each side of a partition, that divides two stalls, and are each attached at the right angle corner of the box to the front partition stud by hinges, so that the boxes may be swung around into the feeding hall, in front of the cattle, and over the feeding car, that the seed which spills in filling the boxes, may fall into the car instead of on the floor. After the boxes are filled, they are turned with a slight touch before the cattle again. In the centre, between the next or adjoining pair of stalls, is an erect cylinder, two feet in diameter at the top, which projects equally into each stall, and extends from about a horizontal line with the tops of the feed boxes (on the opposite side of the stalls,) to the upper surface of the hay-loft directly over the cattle, that it may be filled from the floor. There is a circular aperture, six inches in diameter, in each side of the hay tubes, at a convenient height from the floor, so that two animals may eat from the same tube at the same time. Under the tube is a drawer into which all the loose hay seed falls through its latticed bottom, which drawer when full is emptied, and when a large quantity of seed accumulates it is cleaned for use or market. The seed obtained is of a superior quality, and the quantity ordinarily saved by this arrangement, will pay for all the manual labor required about the building throughout the year.

Across the front of the stalls there is also an extraordinary box manger, directly under which, and running the whole length of the stable, is a trough of water, with suitable openings in the bottom of the manger, through which cattle may be watered by removing the iron slides, and which is done by the means of a lever opening the line of slides at once.

The very great economy and convenience of this arrangement are obvious at a glance, and may be taken as a specimen of the perfection exhibited throughout. Under one of the drive-ways into the third story, is an arched room, well ventilated, and lighted with a glass front, which is used as a milk-room, and has a great many conveniences connected with it for diminishing the labor of taking care of the dairy, which can all be performed without the least exposure to the weather, within the compass of a few feet. The herd is fed with hay, cut feed and steamed roots, that are reduced to a pulp by the revolution of a cylinder in which the roots are placed after steaming, with four cannon balls of two pounds each, and I believe during the summer season the boiling system is to be practiced in part. The building is well lighted and ventilated, so that no diseases are generated by confinement or impure air and deleterious gases, an important feature that is too often overlooked.

On the side of the barn facing the Housatonic, which is but a few hundred feet distant, are projections of cut stone, so arranged as to convert the water which falls over them into a sheet of foam, from which it justly derives its name of "Cascade Barn."—*Plow and Anvil.*

AGRICULTURAL ADDRESSES.

Mr. Fay's Address in Essex.

We had the pleasure of listening to this plain, practical and instructive production, at Lawrence, at the last Exhibition in Essex county; and now we give several extracts that the reader may judge for himself. Mr. Fay indulges in no flights of oratory or fancy, but pursues the even tenor of his way with a good sound common sense, and on topics of utility. He has not set up images of straw to display his skill in knocking them down; nor is there any strained effort to bring in the observations he made when abroad, on subjects of no use at home; nor does he run into sublimated refinements of science—but tells us how common labor may be done in a common way.

If more of our learned men would imitate his example, and tell us what they know and no more, we should be much better instructed. But we are keeping the reader too long from the extracts we wish to present.

Farm work is drudgery, unless the mind is in it.

Our farms have ceased to be a favorite scene of labor to our young men, because the work to be performed is mere drudgery, without pleasure or excitement to the mind, but full of weariness to the body. If, however, you will bring to the farm the steam engine or horse power, and the various implements they put in motion, our children will

gladly remain upon the homesteads they now desert for the factory, the machine-shop and the railroad. He who delves and digs the earth from morning until night, has little time and less inclination for thought—he becomes a mere toil-worn machine at last; but if he is connected with an implement the working of which he is to guide and direct, his position is completely changed; he is then a master over a slave, a truly soulless slave, that labors without sweat to do his bidding.

MASSACHUSETTS A LAND OF SMALL FARMERS.

Massachusetts is a land of small farmers, and we must therefore resort to the principle of association, so well known and practiced upon for various other purposes, to accomplish what is beyond our individual means. We must combine together in the purchase of expensive agricultural implements, and arrange for their use in a way to secure perfect fairness and equality. This is only one of the many ways by which the cost of them may be very much reduced. If sufficient encouragement were given, persons could be found in every community to work them on their own accounts, going from farm to farm as a regular business, profitable to all parties. This is practiced to a very considerable extent among the small farmers in England.

THE TURNIP CROP.

To grow turnips, the land must be well plowed, highly manured and kept free from weeds. It was a crop, which in a proper rotation, prepared the land in the best manner for those which follow it; more than this, it would do well on his light loams, although perhaps better adapted for a heavier soil. Its yield was large and bulky, and to dispose of it to the best advantage, it ought to be fed off the farm to the cattle during the winter; to do this, he would be forced to increase his stock, and in this way he would augment his barn-yard manure, which in its turn would add to the fertility of his soil. He would have better cattle, better and more pigs, and if he kept a few sheep, as every farmer should do, his lambs would come earlier to market, and would be in good condition and command high prices, instead of being sold for their pelts.

This recommendation to grow turnips must not exclude, nor was it intended to do so, the cultivation of other roots. Beets and carrots for some lands, are more profitable than turnips, besides being better food for milch cows. Every farmer can soon learn by experience which root thrives best on his land, and having learned this, he will be blind to his own interest if he does not cultivate it.

A leading English agriculturalist has said, I believe with perfect truth, that the failure of the turnip crop in that country would be a heavier blow to its prosperity, than the failure of the Bank of England. It is owing principally to the liberal use of the turnip, that English cattle and sheep have reached their present high state of perfection, making the land support four times the number that could be maintained under the old system of hay and pasture feeding. If we should adopt their practice in this respect, there is no reason why we should go abroad to purchase at enormous prices, animals which in all essential qualities are no better, if as good as our native stock.

GOV. WASHBURN'S ADDRESS AT WORCESTER.

Through the attention of the Secretary, WILLIAM S. LINCOLN, Esq., we have before us the *Transactions of the Worcester County Society* for the last year. Like its predecessors, it contains many valuable papers. The Address by Governor WASHBURN is written in a clear, comprehensive and terse style. He does not attempt to teach the farmer what are the best breeds of stock, how deep and when they must plow, or how he shall drain and reclaim his lands. He takes a view of the subject more consistent with his own habits of thought, study and occupation, and presents some of the means whereby the farmer may elevate his profession and raise himself to his true level. And while he is very happy in the particular current or turn of his theme, there is an equal felicity in the language he uses.

We know that farmers, while they criticise themselves with unmerciful severity, are exceedingly sensitive to the criticisms of others, especially of lawyers; but in this Address the sentiments uttered are so pertinent and just, and the words so gentle and truthful, that we believe no laboring brother can take exception to them. Perhaps the best commentary, after all, that we can make, is to say that we shall copy liberally from its pages, and begin with the following now.

THE FARMER HAS COMFORT AND INDEPENDENCE, BUT DOES NOT TRULY ESTIMATE THEM.

Sure I am, that no portion of God's heritage can offer more signal marks of comfort and independence than those we witness everywhere among the farmers of Worcester County. And yet I shall venture to affirm that no class do more injustice to their true condition, in the estimation in which they regard it, than do the farmers of Massachusetts.

To hear their remarks, to watch their movements, and trace the course they are inclined to adopt in relation to the education and training of their children for the business of life, one would be led to suppose that Agriculture had few claims upon the respect of those who pursue it. And while I do not believe that such is, in fact, the true sentiment of the masses, there is enough of discontent prevalent among the farmers of New England to justify, if it does not demand, a brief discussion of the true position of Agriculture, as a profession, here. If it is not so, why do we see so many young men crowding into other employments and so few settling down contented on their paternal acres? Why are farms in the country in so little demand, even at prices scarcely higher than they bore twenty years ago, although speculators are coining gold out of town and city lots in our new cities and villages that are springing up throughout New England?

Our professions on the other hand are overrunning, till lawyers and doctors starve amidst plenty, and ministers go hungry while they are breaking the bread of Life to rich churches and congregations. And if we find a young man who has self-respect enough to rely upon his own powers, and

is willing to earn an independence by his own labor, he grows restive as he looks upon a farmer's life here, and quits his old homestead almost without a sigh, to seek a new home in the rich prairies of the West.

If men would regard the pursuit of agriculture in Massachusetts as its true relations deserve, they would find little occasion for the indulgence of those notions. One great difficulty in the way of a farmer's appreciating as he ought the advantages of his own condition, compared with that of his fellow citizens around him, is the isolated manner in which he passes much of his time within the sphere of his own farm and neighborhood. He is too apt to forget how important is that fraternity to which he belongs, in all the elements of power and influence.

ILL-JUDGED COMPARISONS.

The amount invested and held by the farmers of Massachusetts in lands, stock and farming tools, as stated in the census returns of 1850, exceeds a hundred and twenty-two millions of dollars, and in numbers they greatly exceed either the mechanics, manufacturers, or professional men in the Commonwealth. They forget this when they indulge in comparisons with the seemingly more favored portions of the community, and as life is with them one of economy and toil, they are too ready to grow discontented, when if they would but pause and examine for themselves, they would bless the Providence that had given them such a home and such means of earning and enjoying an independence with it. No circumstance is so fraught with the elements of discontent as this habit of making ill-judged comparisons of one's condition with that of others. We start with assuming that whoever is superior in wealth, or enjoying a larger share of popular favor or personal ease, must be the happier man, and looking only at the outside of things, we allow our eyes to be dazzled by the false coloring which life often wears, even in its best estate.

THERE'S MUCH IN LIFE, AFTER ALL.

There 's much in this life, after all,
That's pleasant, if people would take it;
On some of us trouble must fall,
But sure am I most of us make it.
Let us look for the ups and the downs,
And try to take things as we find them;
And if we are met by the frowns,
Believe that a smile is behind them.

What have we, we did not receive?
Is the world not sufficiently roomy?
Then, why should we wish to believe
We were sent into life to be gloomy?
We may meet with some rubs in our day,
But do n't let us tremble for fear of them;
Rather hope they will not come in our way,
And do all we can to keep clear of them.

There are regions of quicksands and rocks,
And it's difficult, too, to steer around them;
A good plumb line might save us some knocks,
But it's no easy matter to sound them,
For our needle may point the wrong way,
And our chart do no more than mislead us,
Till we find that "each dog has his day,"
And a friend's all alive to succeed us.

But there's much in this life, after all,
That's pleasant, if people would take it;
Though on some of us trouble must fall,
Full sure I am most of us make it.
Let us look for the ups and the downs,
And try to take things as we find them;
And if we are met by the frowns,
Believe that a smile is behind them.

EXTRACTS AND REPLIES.

A GOOD COW.

MR. EDITOR:—I have the care of a cow that has been farrow for three years, and has averaged during that time, five quarts of milk a day; her milk is of excellent quality, and makes sufficient butter for a family of six, besides supplying what milk they wish to use. She is of common breed, and does not have very high feeding. I ask if, in your judgment, she is not more than an ordinary cow? J. P.

Fitzwilliam, Nov., 1854.

REMARKS.—Certainly, she is an *extra*-ordinary cow. If she is farrow, we suppose she has given milk through the entire year, which at five quarts per day would be 1,825 quarts a year. Allowing 10 qts. for a pound of butter, it would give 182 pounds per year; but we think the milk of such a cow would yield a pound of butter in something less than ten quarts. Eight quarts to the pound would give 227 1-4 pounds.

BEST FOOD FOR MILCH COWS—PLASTER.

MR. EDITOR:—I have been a constant reader of the *Farmer* for years, and I wish now to make some inquiries through its columns. I make milk for the Worcester market. I wish to inquire what is the best and cheapest feed for cows that give milk, and what will make the most milk for the same money, and also how to feed them? (*a.*)

Is it beneficial to sow plaster at this season of the year on winter rye and on pastures? (*b.*)

Worcester, Nov. 6, 1854. WORCESTER.

REMARKS:—(*a.*) The questions under this head can only be answered in a general way without long and exact experiments. The "best and cheapest" food for milch cows which we have ever found, was good corn fodder, clover and herd's-grass hay, and half a bushel, or three pecks of roots,—say, beets, parsnips, carrots, flat turnips and ruta bagas,—per day, for each cow, fed to them in the morning soon after they were milked. Under this treatment this gave more milk than under any other, and we found it the cheapest. Good corn fodder will produce milk abundantly.

(*b.*) The autumn is a good time to sow plaster.

☞ The substance of the article on the State Pauper Establishment at Tewksbury, has already, appeared in the columns of the *Farmer*. We thank the writer, "H. F.," for his attention and hope to hear from him on other subjects.

BREAKING-UP-PLOW—STRAW-CUTTER—CULTIVATOR—HORSE-PLOW—SPRING WHEAT—PEAT ASHES.

MR. EDITOR:—I wish to inquire through your columns, which, in your opinion, is the best plow for breaking up grass land? (*a.*)

What is the best straw and corn-stalk cutter? (*b.*)

Which of the two does the work most thoroughly, the cultivator or the horse-plow, and the price of each? (*c.*)

Which is the best kind of spring wheat, and how much seed will it take for an acre? (*d.*)

Are peat ashes good as a fertilizer? (*e.*)

YOUNG FARMER.

REMARKS:—(*a.*) There is, probably, no better plow for breaking up grass land than the No. 33, Double Eagle plow, where two or three catttle are to be used. For four cattle take No. 35 1-2 of the same construction.

(*b.*) We have tried several kinds, but find nothing equal to *Gale's Patent Eagle straw and cornstalk cutter.* It works rapidly with a single knife, and is exceedingly simple in its construction.

(*c.*) On ground mostly free from roots and stones a good steel-tooth cultivator is better than a horse-plow; but on rough, stony lands, the plow would be best.

(*d.*) The best seed wheat we get comes from Canada. A kind called the "Scotch Fife," is considered the finest *spring* wheat. On ordinary soils *six pecks* are required, but on very rich land *five pecks* will be sufficient.

GAS LIME.

If "T. H.," from New London, who in the Dec. No. inquires about gas lime, will look at the Oct. No. of the *N. E. Farmer* for 1853, page 455, he will find an analysis of gas lime. T. O. J.

FOOD FOR MILCH COWS.

MR. EDITOR:—I recommend to your correspondent "Worcester," if he wants to raise milk for market at the least possible cost, to feed half a bushel of turnips, boiled with four or five quarts of shorts, once every day to each cow. This, I think, is the cheapest food for milch cows. Will "Worcester" please give the result, if he trys it?

Dec., 1854. Yours, HUNTER.

MR. EDITOR:—What breed of cows do you consider the best for quantity and quality of milk and butter—viz.: for one family where one *good* cow *well* kept will furnish milk sufficient for all purposes?

This is the query. Are not *some* of our *natives*, as good milkers as *some* of the *foreign* blood,—Devons, Ayrshires, &c. &c.?

We go in for *native born*, so far as our experience goes, but we do want the "good article," anyhow. H. C. PARKER.

Manchester, N. H., 1854.

REMARKS:—A good Jersey cow would probably be the best where the milk is required only for family use—say milk for bread-making, for the table, with cream for the pitcher and for an occasional churning. But Jerseys are at present high and scarce, and some other breed may be found which will answer the purpose. Select a native cow four years old, with small limbs, a neck somewhat slender, lean head, small nose and tail, with a well-developed bag, reaching considerably forward and with good sized teats. A middling-sized animal with a bright, lively countenance, but at the same time gentle. Feed her upon upland hay where a ton or a ton and a half to the acre is cut, and give her the slops of the family mixed with a quart of sweet shorts twice a day; and she will probably yield you an average of four quarts of milk a day. When she is six years old, if kept in the manner described, she may yield you an average of six quarts a day for four years. She ought not to go dry more than three or four weeks.

For the New England Farmer.

PRODUCTS OF A SINGLE ACRE.

I am a subscriber to the *Farmer*, and am pleased with it, both as an agricultural and family paper. I see in its columns a tone of freedom, which I like, and a hatred of oppression, which every lover of liberty must admire.

I give you below a statement of the products from one acre of ground, for the last three years, which I think is not bad. The first year I plowed in the grass, and put about forty loads of manure on the sod, harrowed and planted to corn, hoed three times, and got fifty bushels. The second year planted to potatoes, and had 315 bushels. The third year sowed to wheat, put on eight bushels of ashes and 200 pounds of plaster, and had twenty bushels. I also send you a sample of gold, which I dug on the bank of a brook, which runs through a farm that my father sold this fall to a Californian. There has been somewhere from fifty to a hundred dollars' worth taken out this fall, by different persons digging for the fun of it. It remains to be seen whether it will pay to work it or not.

Yours, &c., B. G. RUSSELL.

Stowe, Vt., 1854.

REMARKS.—Your experiment shows what the soil will do if it has a fair chance. There is no doubt on our mind that farming is just as profitable as a business *ought to be*, when it is properly conducted. The gold came safely. Potatoes are wanted more, and we hope your people will give the potato crop the preference.

A GOOD MOVE.—On the 5th inst., Mr. Wentworth, of Ill., offered the following resolution in the House of Representatives:—

Resolved, That the Committee on Agriculture inquire into the expediency of establishing a National Agricultural School, upon the same principle with the National Naval and Military Schools, to have one scholar educated at the public expense, from each congressional district, and to be established in connection with the Smithsonian Institution, so as the better to carry out the object of its founder.

Very good, so far, and we are greatly obliged to Mr. Wentworth; but will the resolution be passed, and if it is, will the committee on agriculture press the matter on the attention of Congress? Judging from the past we fear not. But remember, farmers, there's a "good time coming," when your voices will be heard at Washington as well at the several State capitals. Aside from its warlike tendency, we consider the Military Acadamy at West Point the best educational institution in the United States. An Agricultural Academy, conducted with the same energy and thoroughness, would be of incalculable advantage to our country.—*Country Gentleman.*

HINTS ON THE BREEDING OF FOWLS.

If not already done, now is the time to look over your lots of fowls, and carefully select out the hens and roosters designed to be kept for breeding next year. The fecundity of hens affords the breeder great facilities for improving the breed, but how saldom does he take advantage of them. To make decided improvement in a breed of horses, cattle, or sheep, requires more time than most go-ahead Americans—who are ever ready to pull up stakes, and sell out for a "consideration"—are willing to bestow. In fact, the bare idea of spending half a life-time in perfecting a breed of animals, would be enough to frighten them from the undertaking. Hence we shall probably continue to import the pure breeds of cattle originated by more plodding nations. But with fowls, the length of time required need not deter any one from attempting to improve the breed. By careful and judicious selection, any farmer — or, we would rather say, any farmer's son — may, in two or three years, add a hundred per cent. to the good qualities, and correct most of the deficiencies, of his present breed of fowls — unless, indeed, they are already much better bred than the ordinary fowls found in farmers' yards in most parts of the country.

In this country, and even still more so in Great Britain, fowls have been looked upon as beneath the serious consideration of the farmer. But this is far from being the case. There is no other item on a farm that foots up more net profit than a good breed of properly kept fowls. This is a fact gradually taking possession of the public mind, (thanks to the agricultural press and — though we do not fraternize with them — the chicken speculators,) and we shall ere long witness a decided improvement in the common fowl of the country. For, without taking into consideration the improvement caused by the introduction of Asiatic and other foreign breeds, the stimulus of high prices and good profits has directed the attention of farmers to their common breeds, and it cannot be doubted that if they once take hold of the matter in earnest, great beneficial results must speedily follow, and that without the introduction of any foreign blood.

Now is the time to take this matter in hand.—Select out hens under four years of age, having reference, particularly, to a healthly and vigorous constitution, large, well-formed bodies, and rather small legs and feet, bright eyes and pendent combs. Early maturity and good laying qualities must not be forgotten. The form is a good indication of the former, and also, to a certain extent, of the latter. If early maturity, beauty of form and refinement are carried too far, the tendency to lay eggs is supposed to be diminished. If a hen is known to be of an uneasy disposition, or a poor layer, on no account keep her.

Having selected what hens you intend to keep for breeders, it will be advisable to sell off all the others now, so that the remainder may be better fed during the winter. It is vain to expect abundance of eggs next spring if the hens are starved during winter. A few hens fed will always prove more profitable than a large number half-starved during a few months of the year, even though they may have a superabundance of food at other times. See, too, that the hen-house is warm and *dry*. Hens, like sheep, can stand anything better than water. Let the hen-house be thoroughly cleaned out now and regularly supplied, during winter, with clean, dry straw.

If you design to change one or more of your roosters, now is the time to do it. They will thus have abundant time to get acquainted with their partners before spring. In selecting a rooster, we should not look so much to beauty of outline, as to a vigorous and valiant demeanor, strong, muscular thighs, full breast, and plump, heavy body, having more muscle than fat. Color is a mere matter of fancy. White fowls are supposed by some to be delicate; but this has not proved so in our experience, though it is probable, as a general thing, that colored fowls are the hardiest. White or bluish legged fowls are the favorites with some, from the whiteness and apparent delicacy of the meat; but it is admitted that the yellow legged are the richest and most highly flavored.

If a little flesh meat can be cheaply obtained during winter, the fowls will be all the better for it. It is a tolerably good substitute for the worms and insects they obtain in warmer latitudes. Be very careful, however, not to give them any salt meat, as it always proves injurious, and sometimes fatal. There can be no doubt that salt is not required by fowls in larger quantity than that obtained as a constituent of their ordinary food. They must have access to fresh water, and if they cannot find enough food from the scatterings of the barn-yard, must be fed as the judgment of the farmer dictates.

For the New England Farmer.

PRUNING APPLE TREES.

REPORTED TO THE CONCORD FARMERS' CLUB BY BY WILLIAM D. BROWN.

MR. PRESIDENT:—The subject assigned to me for a short essay was *Pruning*. I shall speak only of apple trees.

The apple tree grows with a superabundance of limbs, that provision may be made against casualties, and an opportunity afforded for the cultivator to train according to his particular taste, or the necessities of the locality.

A young tree in the nursery requires but little pruning, if any, for the first two years. The side limbs contribute to the growth of the stock, which naturally grows with a regular taper from the ground up. When the low limbs of a young tree are early removed, and the sap driven into the top, the tree will not sustain an upright position. The top increases faster than the trunk, which soon becomes too weak to support it. A tree that has been trimmed at the right time, requires no staking when transplanted. When a tree is trimmed in the nursery, it is hardly possible to shape the head and leave on only such limbs as will be required when it arrives at the bearing state. The head should be *worked up* gradually, a few lower limbs each year being cut away.

Cultivators generally agree that the lowest limbs at the trunk of the tree should be out of the way of teams passing under it. It will be found a great convenience in plowing to have the tree trained with one straight upright stem. Those side branches are of the right kind that join the trunk nearly at a right angle. They can never break, even if bent to the ground at their extremities. It will be found that there will form about the junction a hard knot which never gives way.

A tree properly shaped when young will seldom

require the removal of large limbs. If this is ever necessary it is well to check the sap for one or two summers by partly girdling the branches you wish to remove. This may be done without the slightest danger or inconvenience during the growing season, and in the Autumn, when the limbs are cut away, the wounds will keep dry and soon become perfectly hard. If they are of considerable size, it is well to cover the exposed part with a little paint.

In my own practice, I have found great success in partly girdling limbs which I wished to check and subsequently remove. I have found the practice interesting in one particular; the limbs girdled are sure to bear before the others. The descending sap is checked and forms fruit spurs. Scions set in thrifty stocks generally require no pruning the first year. The second year, where two have been set and both lived, one should invariably be removed. If the limb is large and thrifty, great care is necessary to save the remaining scion from a too great rush of sap. This may be done by leaving on the limb sufficient branches of the original stock, which should be gradually removed. I may remark here that too many scions are usually grafted into a tree. A few in a few years will afford enough top. Trees usually bear apples on the outside, in the sunshine. A thick top is always barren.

TIME OF PRUNING.

If you trim when the tree is not in leaf, when the sap starts it will ooze from the wound, and discolor and kill the bark. The part exposed will rot, and soon decay will extend through the entire heart. If the tree is small, it is often ruined; if it is a large tree, it is very seriously damaged. It is better to prune in Autumn or while the tree is in full leaf. In June the wound will immediately begin to heal. In September it will remain dry and sound.

TOOLS FOR PRUNING.

These should be sharp. For small trees excellent knives are made, which every owner of a tree should use. For removing limbs of a considerable size I use a mallet and a light hand chisel. The chisel cuts smoother than a saw, and quicker.

FROST AS A MANURE.

We know of no treatment so directly beneficial, for almost every class of soils as that of throwing up land in narrow ridges, in the fall or early winter. There are few soils, worth cultivating at all, that do not contain more or less materials which can be made available to plants by the combined action of air and frost.

Take two plots of heavy soil, side by side, and let one lie unmoved till spring, while the other is *deeply* plowed in autumn, and the result will be very visible in the spring crop. But the manner of plowing is important. To secure the greatest advantage, a single furrow should be thrown up, and another back-furrow directly upon it, so as to produce a high ridge, and another ridge is to be made in the same manner with a deep dead-furrow between the two. The process is to be continued thus through the whole field, so that when finished it will present a surface of high ridges and deep dead furrows, succeeding each other, about once in two or two and a half feet. If prepared in this way, the frost will penetrate far downward, loosening and disintegrating the soil below the furrows, while the ridges will crumble down, as they will not hold water, the air will circulate freely through them, decomposing the mineral portions, and conveying in ammonia and other gases. This operation will be equal to ten or more loads of good manure upon clay or compact soils.

In the spring it will only be necessary to run a plow once or twice through the centre of each ridge, and then level the whole down with a heavy harrow.

Another advantage in this process, is that when land is thus prepared, it dries out and warms several days earlier in the spring. Again there are some soils that are exhausted upon the surface, but which contains poisonous substances in the subsoil. If this subsoil is thrown up in contact with the air and frost during winter, these poisonous compounds (usually proto-sulphate of iron or manganese) will be destroyed, or changed to a harmless form, during the winter.

The above practice is especially to be recommended in the garden. One of the most successful cultivators of an acre of ground in our acquaintance, digs it up in the fall to the depth of three or four feet, making deep trenches and high ridges, so that the whole acre appears to be covered with high winrows of hay placed closely together.

We strongly urge every farmer who has not tried this method, to lay out their plans now for experiment in this way, or on a larger or smaller scale, during the present season.—*American Agriculturist.*

CONCORD FARMERS' CLUB.

The Annual meeting of the *Concord Farmers' Club* took place on the evening of the 9th inst. The persons elected were,

E. W. Bull, *President.*
Wm. D. Brown, *Vice President.*
Minot Pratt, *Secretary.*
John Raynolds, *Treasurer.*

Standing Committees were then elected and Reports ordered on the following subjects:—manures; hoed crops; root crops; grain crops; grass crops; live stock; farm buildings and farms; farming tools; reclaiming waste lands; garden fruits; ornamental gardening; fruit and ornamental trees; draining; feeding stock; pruning, and a special committee on the value and effects of guano as a fertilizer.

TIMBER.

How full of graceful sentiment is the following extract from Vaughan's Poems, published in 1640:

Sure thou didst flourish once, and many Springs,
Many bright mornings, much dew, many showers
Pass'd o'er thy head; many light hearts and wings,
That now are dead, lodged in thy living towers:

And still a new succession sings, and flies—
Fresh groves grow up, and their green branches shoot
Towards the old and still-enduring skies,
While the low violet thriveth at their root.

☞ Often breakihg up a surface keeps a soil in health—for when it lies in a hard bound state enriching showers run off, and the salubrious air cannot enter.

For the New England Farmer.

MACHINE FOR PEELING WILLOW.

MR. BROWN:—Those of your numerous readers who are engaged, or contemplate engaging in the cultivation of the *basket willow*, will be pleased to learn that there is a machine for peeling the willow. Mr. GEORGE F. COLBY, of Jamesville, Vt., the inventor, has had a machine made by which its merits have been fully tested; and all who have witnessed its operation, agree that it does the work to perfection and with the greatest facility, and believe it to be one of the greatest labor saving machines of the age. This, I believe, is the first machine ever invented for the purpose, either in this or the old country, and must add vastly to the cultivation of the article in this country. Mr. C., who has been successfully engaged in the cultivation of the willow for several years, estimates the cost of peeling, in the ordinary way, at from $80 to $120 per acre, or at $40 per ton, while he claims that his machine, which requires but one horse power, with two men, will do the same work within at least from two to three days, at the rate of one ton per day. Mr. C. has taken measures to secure a patent.

Bolton, Vt., Dec., 1854. J. R. JEWELL.

THE CONNECTICUT VALLEY FARMER.—Prof. J. A. Nash, of Amherst, has become the editor and Proprietor of this paper, and we find its columns filled with the well written and valuable facts so familiar to the mind of the writer. The *Valley Farmer*, under the care of Prof. Nash, will be the medium of such intelligence as most of us need in the operations of the farm. We wish it abundant success.

POSTAGE.—Gentlemen writing the Agricultural Editor on their own affairs, and requiring a reply, will be kind enough to enclose a stamp for the return letter.

PRETTY FINE CABBAGE.—W. C. Hoff, Esq., has sent us from his fine gardens, at the Mission Dolores, a very compact and finely grown Cabbage, of the Flat Dutch variety, weighing 32 1-2 lbs. If any of our cultivators can beat this, we should like they would bring along their specimens. —*California Farmer.*

FEED LIBERALLY.—It is generally acknowledged that cattle of any kind, when well fed and looked after, repay much more fully the judicious outlay incurred for their maintenance, than ill kept animals repay the niggardly expenditure incurred in keeping them alive. Profit is derived only from the excess above that which is absolutely necessary; the quanity of nourishment which just keeps an animal alive, is to a certain extent lost. This we say is generally acknowledged, but we are sorry to say, not so generally practiced upon.—*Rural New Yorker.*

GENEROUS PRICE FOR FRUIT.—Two splendid Oregon Pippins, weighing 2 1-2 and 2 1-4 lbs., and one splendid Pear, weighing 1 3-4 lbs., were sold by Mr. Weaver, at No. 1 Washington Street, at $10 each.—*California Farmer.*

WINTERING CABBAGE PLANTS.—Any method simple and inexpensive, for preserving of autumn sown cabbage plants through the winter, is a valuable consideration. We know of none better adopted for the great bulk of people, than the following, practiced to a considerable extent by market gardeners, and in dry, sandy or upland soil, with good success.

THE ARGAN TREE.

The following letter, descriptive of the Argan tree, by the British Acting Vice Consul at Mogadore, will be read with interest. The tree is valuable in dry countries as furnishing what is there much wanted, a supply of food for cattle in seasons of drought.

The Argan tree grows more or less throughout the States of Western Barbary, but principally in the province of Haha, and south of this town.

The soil on which it is found is light, sandy, and very stony. It is usually found upon the hills, which are barren of all else, and where irrigation is impossible.

I should imagine, from the appearance of some of the trees, that they are from one to two hundred years old; and a remarkably large one in this neighborhood, I should say, is at least three hundred. This tree measures round the trunk twenty-six feet; at the height of three feet it branches off, (one of them measures eleven feet near the trunk;) these branches rest upon the ground about fifteen feet from the trunk, and again ascend. The highest branch of this tree is not more than sixteen to eighteen feet: the outer branches extend to a circumference of 220 feet. This is the largest I am aware of.

The system of propagation in this vicinity is mostly by seed. When sowing, a little manure is placed with it, and it is well watered until it shoots, from which period it requires nothing further. It bears fruit at from three to five years, which ripens from May to August, (according to the situation of the tree.) The roots extend to a great distance under ground, and shoots make their appearance at intervals, which are allowed to remain, thus doing away with the necessity for transplanting or sowing. As the fruit ripens, herds of goats, sheep, and cows are taken out; a man beats the tree with a long pole, and the nuts fall and are devoured voraciously by the cattle. In the evening they are driven home, and when comfortably settled in the yard they commence chewing the cud and throw out the nuts, which are collected each morning as soon as the cattle have departed upon their daily excursion. I have heard it remarked that the nut passes through the stomach of the animal; but this is only a casualty and not a general rule. Large quantities are collected by women and children, which are well dried; the hull is taken off and stored for the camels and mules traveling in the winter. They are considered very nutritious.

The process of extracting the oil is very simple. The nuts are cracked by the women and children. The kernels are then parched in a common earthen vessel, ground in handmills of this country, then put in a pan, a little cold water sprinkled upon it; then it is well worked by the hand (much the same as kneading dough) until the oil separates itself, when the refuse is well pressed, which completes the process. The oil is let stand and the sediment removed. The cake (in which a good deal of oil remains) is generally given to the milch cows or goats. Some of these Argans are in clusters, others single trees.

☞ Our doctrines are—feed the earth, and it will feed you—feed the apple tree, and it will yield fair fruit.